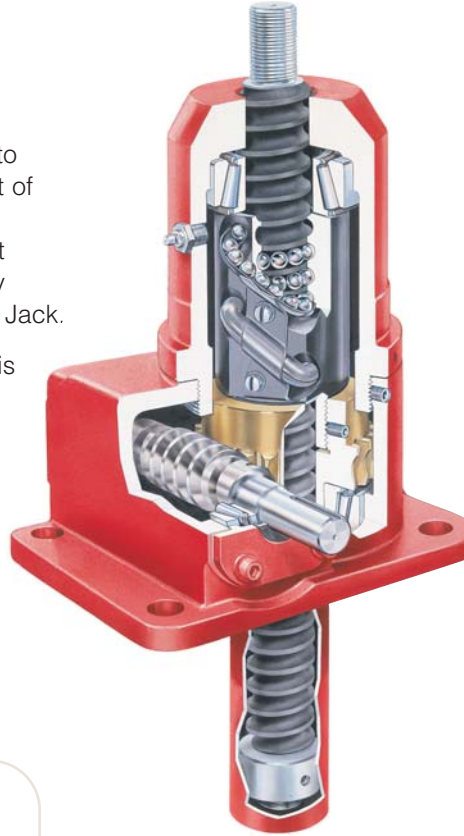


## BALL SCREW JACKS

ActionJac™ Ball Screw Jacks have been designed to produce rated output forces with a minimum amount of input torque. Ball screw jacks use a worm gear set arrangement with an efficient ball screw and nut that reduces the amount of input torque to approximately one-third the torque required for the Machine Screw Jack.

See the technical introduction at the beginning of this section for additional Ball Screw Jack features and comparison to Machine Screw Jacks.



**Download Accurate Moveable Assembly 3D Models and 2D Drawings**

**For ActionJac™ Worm Gear Screw Jacks:**

- **Configure** specific requirements for your Worm Gear Screw Jack application in a simple interface, including motor adapter, right angle reducer, bellows boots and limit switch accessories.
- **View** complete assemblies on-line with zoom, pan and rotate capabilities.
- **Download** true assembly models with full range of motion in native AutoCAD®, SolidWorks®, Pro/E®, CATIA®, ParaSolids®, SAT® and many other formats.
- **Order** complete jack assemblies with generated part number.

Download  
**3D Models**



[www.nookindustries.com](http://www.nookindustries.com)





INCH BALL SCREW JACKS TECHNICAL DATA

JACK SIZES					JACK SELECTION									
MODEL*	Capacity (tons)	Lifting Screw Dia. (in)	Screw Lead (in)	Root Dia. (in)	Gear Ratio	Turns of Worm for 1" Travel	Maximum Input Torque (in.-lb.)	Maximum Allowable Input (hp)	Maximum Worm Speed at Rated Load	Maximum Load at 1750 RPM	Torque to Raise 1 lb. (in.-lb.)	Tare Drag Torque (in.-lb.)	BackDrive Holding Torque (ft.-lb.)	Page Ref
0.5-BSJ	1/2	5/8	.200	.500	5:1	25	9.5	1/3	1800	1000	.0095	1	1.0	297
					20:1	100	4.0	1/6	1800	1000	.0040	1	.25	297
0.5HL-BSJ	1/2	5/8	.500	.500	5:1	10	24.2	1/3	868	496	.0242	1	2	297
					20:1	40	10.2	1/6	1030	588	.0102	1	1	297
1-BSJ	1	3/4	.200	.602	5:1	25	19	1/2	1660	1895	.0095	3	1.5	298
					20:1	100	9	1/4	1750	2000	.0045	3	.50	298
1HL-BSJ	1	3/4	.500	.602	5:1	10	48.2	1/2	654	747	.0241	3	3.5	299
					20:1	40	9	1/4	691	790	.0114	3	1.5	299
2-BSJ	2	1	.250	.820	6:1	24	40	2	1800	4000	.0100	4	3	300
					12:1	48	26	1 1/2	1800	4000	.0064	4	1.5	300
					24:1	96	17	1/2	1800	4000	.0043	4	1	300
2R-BSJ	2	1	.250	.820	6:1	24	40	2	1800	4000	.0100	4	3	301
					12:1	48	26	1 1/2	1800	4000	.0064	4	1.5	301
					24:1	96	17	1/2	1800	4000	.0043	4	1	301
2.5-BSJ	2 1/2	1	.250	.820	6:1	24	51	2	1800	5000	.0102	5	4	302
					12:1	48	31	1 1/2	1800	5000	.0061	5	2	302
					24:1	96	21	1/2	1500	4287	.0042	5	1.5	302
2.5HL-BSJ	2 1/2	1	1.00	.820	6:1	6	202	2	624	1783	.0404	5	14	303
					12:1	12	122	1 1/2	775	2214	.0244	5	6	303
					24:1	24	85	1/2	371	1059	.0170	5	5	303
3-BSJ	3	1 11/64	.413	.870	6:1	14.53	100	2	1260	4313	.0167	6	6	304
					24:1	58.10	42	1/2	750	2572	.0070	6	2	304

\* Measurements listed are for non-keyed units. See individual jack pages for keyed jack info.

**NOTES:**

- 1) The recommended maximum speed is 3000 rpm provided that the recommended horsepower and temperature are not exceeded.
- 2) Input torque is shown as torque to lift one pound of load. Starting Torque is 100% greater than torque shown. For loads less than 25% of rated loads add tare drag torque.
- 3) Maximum allowable horsepower ratings are based on a 35% duty cycle. For operation at higher duty cycles or repeated use over any segment of the total travel, temperature must be monitored and remain less than 200°F.
- 4) Overload capacity of the Ball Screw Jack is as follows: 10% for dynamic loads, 30% for static loads.
- 5) All Ball Screw Jacks can backdrive and require some means of holding the load, such as a brake on the motor. The product specification pages show holding torque values. Holding torque represents the amount of input torque required to restrain the load and does not indicate recommended brake size to bring the dynamic load to a stop.

JACK SIZES					JACK SELECTION									
MODEL*	Capacity (tons)	Lifting Screw Dia. (in)	Screw Lead (in)	Root Dia. (in)	Gear Ratio	Turns of Worm for 1" Travel	Maximum Input Torque (in.-lb.)	Maximum Allowable Input (hp)	Maximum Worm Speed at Rated Load	Maximum Load at 1750 RPM	Torque to Raise 1 lb. (in.-lb.)	Tare Drag Torque (in.-lb.)	BackDrive Holding Torque (ft.-lb.)	Page Ref
5-BSJ	5	1 1/2	.473	1.140	6:1	12.66	183	3	1033	5904	.0183	10	14	305
					24:1	50.66	73	3/4	647	3700	.0073	10	5	305
5HL-BSJ	5	1 1/2	1.00	1.140	6:1	6	387	3	488	2792	.0387	10	30	305
					24:1	24	153	3/4	308	1765	.0153	10	10	305
10-BSJ	10	1 1/2	.473	1.140	8:1	16.88	302	5	1043	11925	.0151	20	13	306
					24:1	50.66	153	1 1/2	618	7016	.0077	20	4	306
10HL-BSJ	10	1 1/2	1.00	1.140	8:1	8	638	5	494	5645	.0319	20	26	306
					24:1	24	323	1 1/2	293	3335	.0162	20	6	306
20-BSJ	20	2 1/4	.50	1.850	8:1	16	626	7 1/2	755	17204	.0157	40	27	307
					24:1	48	314	2 1/2	501	11397	.0079	40	7	307
20HL-BSJ	20	2 1/4	1.00	1.850	8:1	8	1253	7 1/2	377	8629	.0313	40	54	307
					24:1	24	628	2 1/2	251	5737	.0157	40	13	307
30-BSJ	30	3	.66	2.480	10 <sup>2</sup> /3:1	16.16	969	11	715	24515	.0162	60	21	308
					32:1	48.48	503	3 1/2	438	15006	.0084	60	5	308
30HL-BSJ	30	3	1.5	2.480	10 <sup>2</sup> /3:1	7.11	2292	11	315	10794	.0367	60	67	308
					32:1	21.33	1144	3 1/2	193	6600	.0191	60	15	308
50-BSJ	50	4	1.0	3.338	10 <sup>2</sup> /3:1	10.66	2560	16	394	22509	.0256	90	40	309
					32:1	32	1390	5	227	12954	.0139	90	10	309
75-BSJ	75	4	1.0	3.338	10 <sup>2</sup> /3:1	10.66	3660	28	482	41328	.0244	155	110	310
					32:1	32	1680	9	338	28970	.0112	155	25	310
100-BSJ	100	4	1.0	3.338	10 <sup>2</sup> /3:1	10.66	4880	32	413	47232	.0244	205	152	311
					32:1	32	2760	12 1/2	285	32621	.0138	205	25	311

INCH BALL SCREW JACKS TECHNICAL DATA

\* Measurements listed are for non-keyed units. See individual jack pages for keyed jack info.

**NOTES:**

6) All units are suitable for intermittent operation providing that the housing temperature including ambient is not lower than -20°F or higher than +200°F. Factory supplied grease in standard units will operate in this range. For higher or lower operating temperature ranges consult Nook Industries.

7) Accessories such as boots, limit switches, top plates and clevises are available.

8) Catalog dimensions are representative only and are subject to change without notice. For construction, use only certified prints.

9) Units are not to be used as personnel support or movement.

10) End-of-travel stops are not provided.

\* Tare drag torque need only be added if operating under 25% rated load.

$$\text{Horsepower per jack} = \frac{\text{Torque to raise one pound} \times \text{Number of pounds to be raised} \times \text{rpm}}{63,025}$$

Starting Torque is 100% greater than torque shown.

Column strength is the ability of the lift shaft to hold compressive loads without buckling. With longer screw lengths, column strength may be substantially lower than nominal jack capacity.

If the lift shaft is in tension only, the screw jack travel is limited by the available screw material or by the critical speed of the screw. Refer to the ball screw technical section for critical speed limitations. If there is any possibility for the lift shaft to go into compression, the application should be sized for sufficient column strength.

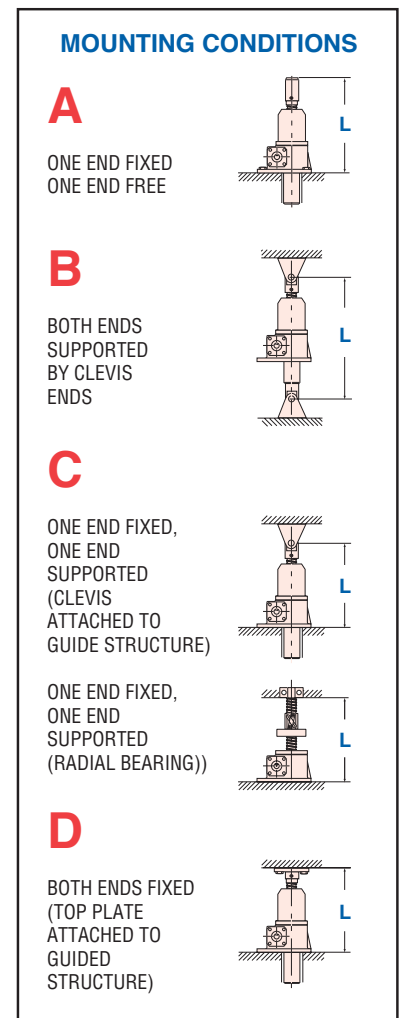
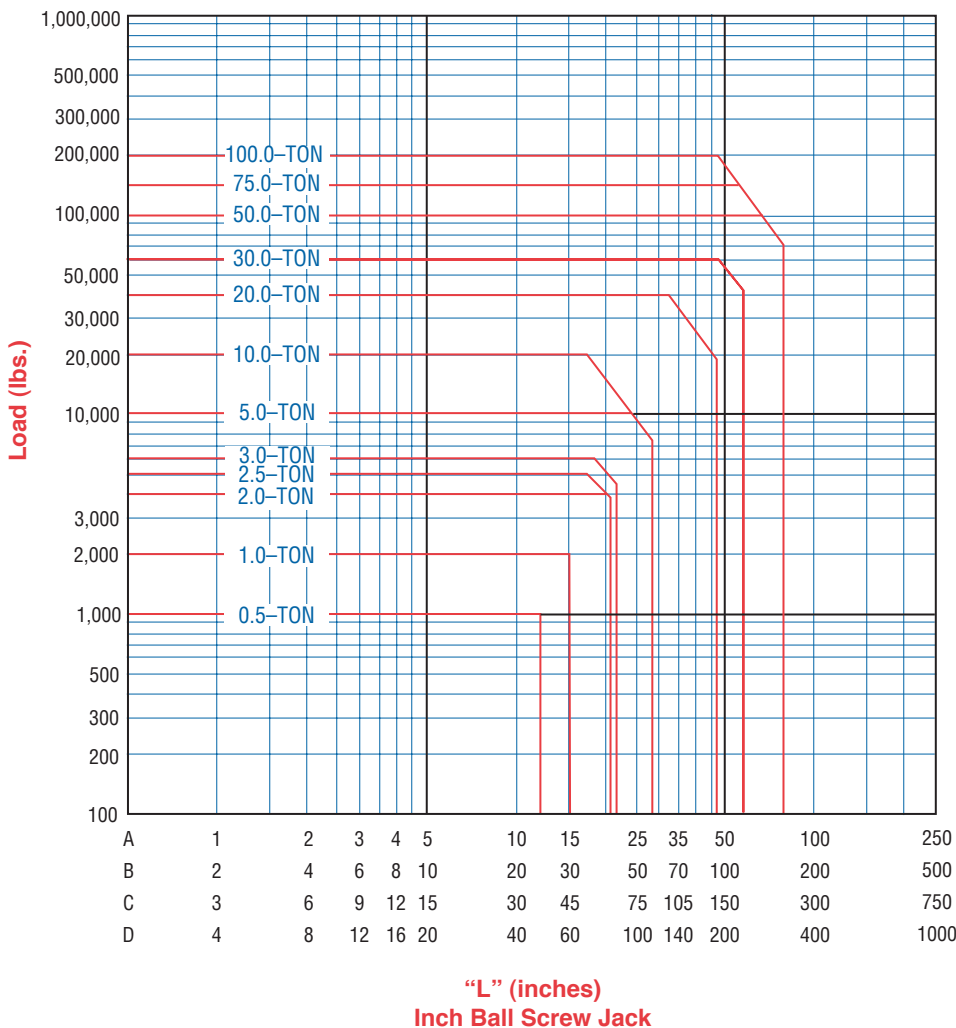
The chart below is used to determine the required jack size in applications where the lift shaft is loaded in compression.

To use this chart:

Find a point at which the maximum length “L” intersects the maximum load. Be sure the jack selected is above and to the right of that point.

**CAUTION:** chart does not include a design factor.

The chart assumes proper jack alignment with no bending loads on the screw. Effects from side loading are not included in this chart. Jacks operating horizontally with long lift shafts can experience bending from the weight of the screw. Consult Nook Industries, Inc. if side thrust is anticipated, operating horizontally, or maximum raise is greater than 30 times the screw diameter.



**AVAILABLE LIFT SCREW LENGTHS**

As a major manufacturer of industrial lead screws, Nook Industries stocks a wide selection of ball screws. Nook Industries has the capacity to make long ball screws for

special applications. Rotating screw jacks can be built with a larger diameter lift screw for greater column strength, or a different lead to change the jack operating speed.

The following chart provides the minimum life expectancy in total inches of travel for the ball screws.

MODEL	Operating Load (lbs)	MINIMUM INCHES OF TRAVEL (in. x 10 <sup>3</sup> )				Page Number
		UPRIGHT & INVERTED		UPRIGHT & INVERTED ROTATING		
		Standard (in)	High-Lead (in)	Standard (in)	High-Lead (in)	
0.5-BSJ 0.5HL-BSJ	1,000	377	708	471	885	297
	750	893	1,678	116	2,097	
	500	3,014	5,662	3,767	7,078	
	250	24,111	45,299	56,623	56,623	
1-BSJ 1HL-BSJ	2,000	133	2,019	166	2,524	298-299
	1,500	316	4,785.9	394	5,982	
	1,000	1,065	16,152	1,331	20,190	
	500	8,518	129,218	10,648	161,523	
2-BSJ 2R-BSJ	5,000	52	—	66	—	300-301
	3,750	124	—	155	—	
	2,500	419	—	524	—	
	1,250	3,351	—	4,189	—	
2.5-BSJ 2.5HL-BSJ	5,000	27	63	34	79	302-303
	3,750	64	149	79	186	
	2,500	215	503	268	629	
	1,250	1,716	4,026	2,145	5,031	
3-BSJ	6,000	219	—	273	—	304
	4,500	518	—	648	—	
	3,000	1,750	—	2,187	—	
	1,500	13,996	—	17,495	—	
5-BSJ 5HL-BSJ	10,000	812	346	1,015	432	305
	7,500	1,925	819	2,406	1,024	
	5,000	6,497	2,765	8,121	1,024	
	2,500	51,972	22,123	64,965	27,653	
10-BSJ 10HL-BSJ	20,000	102	43	127	54	306
	15,000	241	103	301	128	
	10,000	812	346	1,015	432	
	5,000	6,497	2,765	8,121	3,457	
20-BSJ 20HL-BSJ	40,000	121	234	151	292	307
	30,000	287	554	358	692	
	20,000	967	1,869	1,209	2,336	
	10,000	7,737	14,952	9,672	18,690	
30-BSJ 30HL-BSJ	60,000	323	572	403	715	308
	45,000	764	1,355	955	1,694	
	30,000	2,579	4,574	3,223	5,718	
	15,000	20,630	36,596	25,787	45,744	
50-BSJ	100,000	505	—	631	—	309
	75,000	1,196	—	1,495	—	
	50,000	4,037	—	5,046	—	
	25,000	32,292	—	40,365	—	
75-BSJ	150,000	150	—	187	—	310
	112,500	354	—	443	—	
	75,000	1,196	—	1,495	—	
	37,500	9,568	—	11,960	—	
100-BSJ	200,000	63	—	79	—	311
	150,000	150	—	187	—	
	100,000	505	—	631	—	
	50,000	4,037	—	5,046	—	

**LEAD ACCURACY**

The rolled thread ball screw, as employed in ActionJac™ products, is held within ±0.004" per foot cumulative from nominal dimension. Lift Shafts can be matched to within ±0.002" per foot when ordered as matched sets. Special ground threads having lead accuracies of ±0.0005" per foot can be provided.

**BACKLASH**

Axial backlash ranges from 0.005" to 0.012". Specify optional selective fit lift shaft for 0.003" to 0.005" backlash.

**MATERIAL HARDNESS**

Ball screws have a race hardness of Rockwell C 58 minimum. Core hardness will run from Rc 20 to 35.

**NOTES:**

- Refer to Lubrication Instructions in order to obtain maximum life from ball screw assemblies.
- These values may be greatly reduced if the units are subjected to misalignment, shock loads, side thrust, contamination or lack of proper lubrication and maintenance.

**2.5-BSJ-U 6:1 / 10BT-1 / 2CA / FT / 24.5 / SB**

INCH BALL SCREW JACKS TECHNICAL DATA

**BALL SCREW MODEL**

Ton	Model #	Ton	Model #	Ton	Model #
1/2	= 0.5-BSJ	2.5	= 2.5HL-BSJ	20	= 20HL-BSJ
1/2	= 0.5HL-BSJ	3	= 3-BSJ	30	= 30-BSJ
1	= 1-BSJ	5	= 5-BSJ	30	= 30HL-BSJ
1	= 1HL-BSJ	5	= 5HL-BSJ	50	= 50-BSJ
2	= 2-BSJ	10	= 10-BSJ	75	= 75-BSJ
2	= 2R-BSJ	10	= 10HL-BSJ	100	= 100-BSJ
2.5	= 2.5-BSJ	20	= 20-BSJ		

**CONFIGURATION**

**U** = Upright                      **DC** = Double Clevis  
**I** = Inverted                    **UK** = Upright Keyed  
**UR** = Upright Rotating       **IK** = Inverted Keyed  
**IR** = Inverted Rotating

**GEAR RATIO**

Refer to product pages for available ratios.

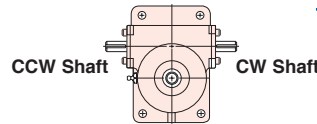
**SHAFT ORDER CODE**

CCW Position 1, 3, 5 & 7  
 CW Position 2, 4, 6 & 8

**ORDER CODES (Must Include A Position)**

**NO ACCESSORY**

**SSE-** = Standard Shaft Extension, Position 1 or 2  
**000-** = Delete Shaft Extension, Position 1 or 2  
**SPC-** = Special Modified Shaft Extension, Position 1 or 2



**Motor Mounts Without Motor**  
(Position 1 or 2)

Used on 2.5 to 20 Ton Jacks.

see page 275 for standard motor mount order codes

**EXAMPLE:**

**X05-1** = 56C NEMA frame in Position 1  
**X14-2** = 140TC NEMA frame in Position 2

**Motor Mounts With Motors**  
(Position 1 or 2)

Used on 2.5 to 20 Ton Jacks.

see page 275 & 276 for available motors

**EXAMPLE:**

**10BT-1** = 1 Hp-3 ph internally wired standard Brake Motor in Position 1

**Right Angle Reducer**  
(Position 1 through 8)

Used on 2.5 to 20 Ton Jacks.

see page 278 and 279 for available Right Angle Reducers

**NOTE:** A Right Angle Reducer must be accompanied with a motor mount or motor order code.

**EXAMPLE:**

**X05R6-1** = 56C Motor Mount with a 6:1 Reducer in Position 1  
**10BSR12-4** = 1 Hp- 3 ph Brake Motor with a 12:1 Right Angle Reducer in Position 4

**Rotary Limit Switch**  
(Position 1 C or E through 8 C or E)

Used on 2 to 100 Ton Jacks.

see page 282 and 283 for available rotary limit switches

**NOTE:** A Limit Switch must include a close or extended mount.

**EXAMPLE:**

**4CA-6E** = 4 Circuit Limit Switch, SPDT with an extended mount in Position 6

**NOTE:** Both Shaft Extensions Must Be Specified

**HOUSING CONFIGURATION**

**F** = Standard Flange Base      **C** = Clevis Base      **T** = Trunnion Base

**SCREW CONFIGURATION**

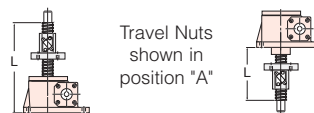
**TRANSLATING - U and I MODELS**

**T** = Standard Threaded End  
**C** = Clevis End  
**P** = Top Plate

**ROTATING - UR and IR MODELS**

**A** = Travel Nut Position "A"  
**B** = Travel Nut Position "B"

**UR** - Upright Rotating      **IR** - Inverted Rotating



**TRAVEL**

For Translating Screw Models (U and I) use actual Travel in inches. For Rotating Screw Models (UR and IR) use "L" Dimension in Inches.

**MODIFIER LIST**

**S or M Required**

**S** = Standard, no additional description required  
**M** = Modified, additional description required

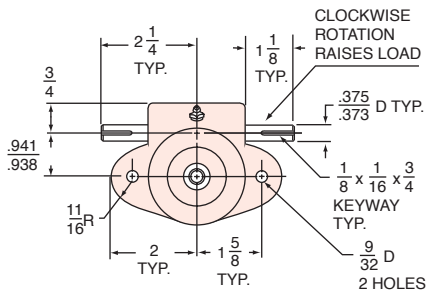
**E and/or B Optional**

**E** = In-Line Encoder (motor or motor mount required)  
**B** = Bellows Boots (must calculate retracted and extended boot length, see page 280-281)

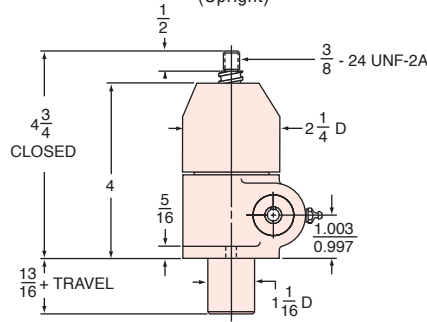
# 0.5-BSJ & 0.5HL-BSJ

INCH BALL SCREW JACKS TECHNICAL DATA

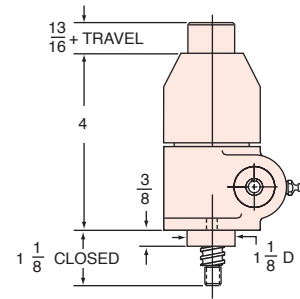
## 0.5-BSJ and 0.5HL-BSJ Housing Top View



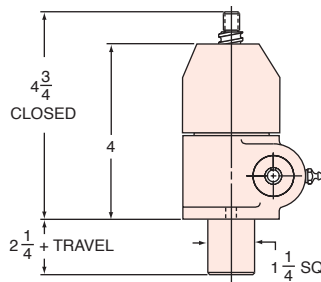
## 0.5-BSJ-U and 0.5HL-BSJ-U (Upright)



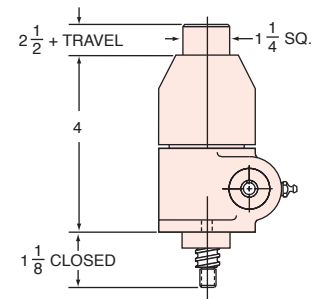
## 0.5-BSJ-I and 0.5HL-BSJ-I (Inverted)



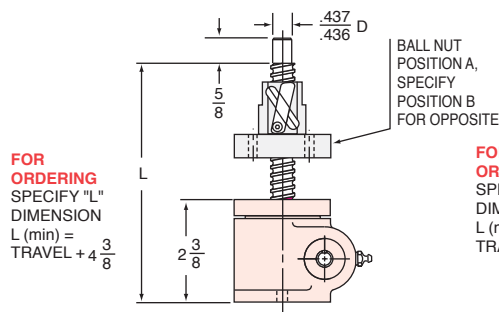
## 0.5-BSJ-UK and 0.5HL-BSJ-UK (Upright Keyed)



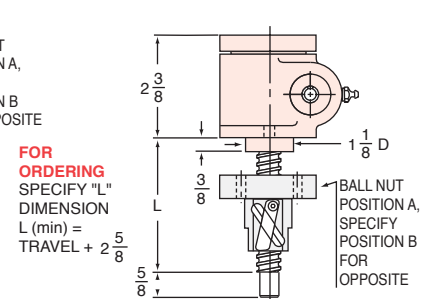
## 0.5-BSJ-IK and 0.5HL-BSJ-IK (Inverted Keyed)



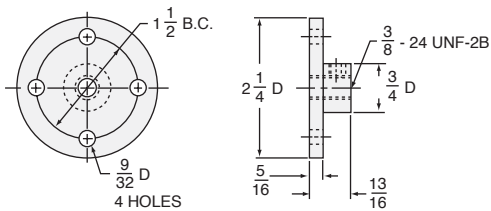
## 0.5-BSJ-UR and 0.5HL-BSJ-UR (Upright Rotating)



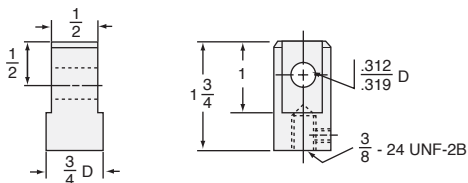
## 0.5-BSJ-IR and 0.5HL-BSJ-IR (Inverted Rotating)



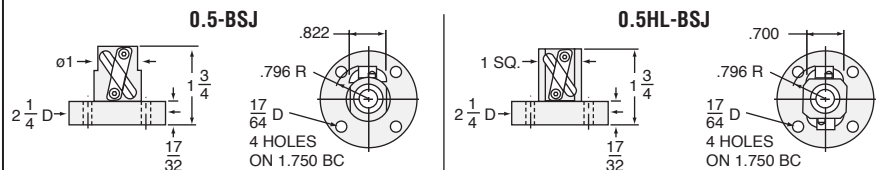
## TOP PLATE (optional): B9000-00-12



## CLEVIS END (optional): B9001-00-12



## BALL NUT & FLANGE DIMENSIONS

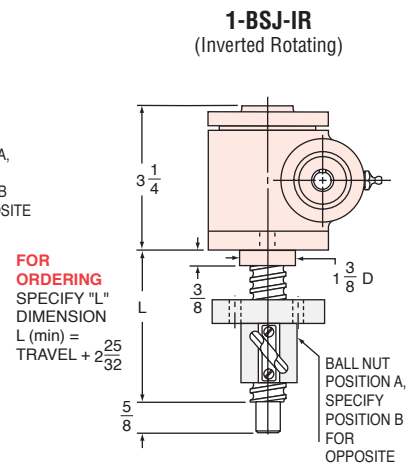
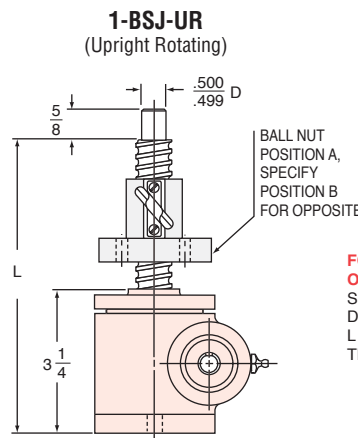
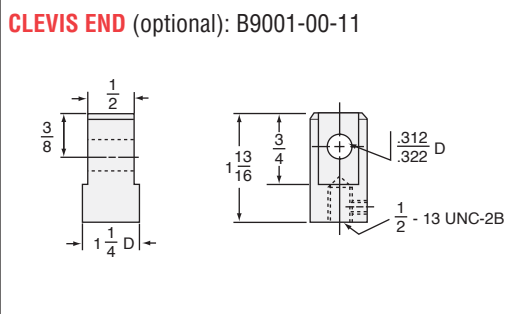
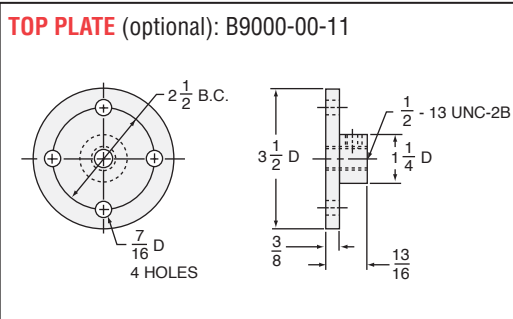
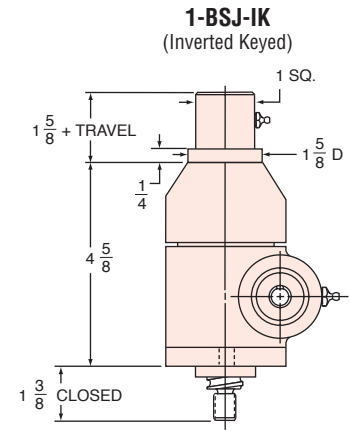
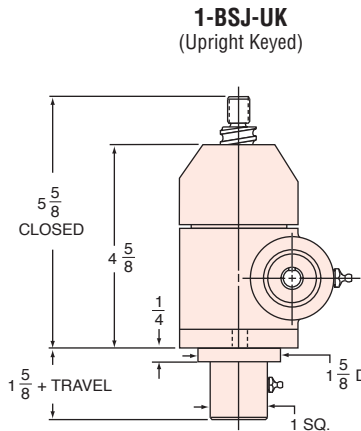
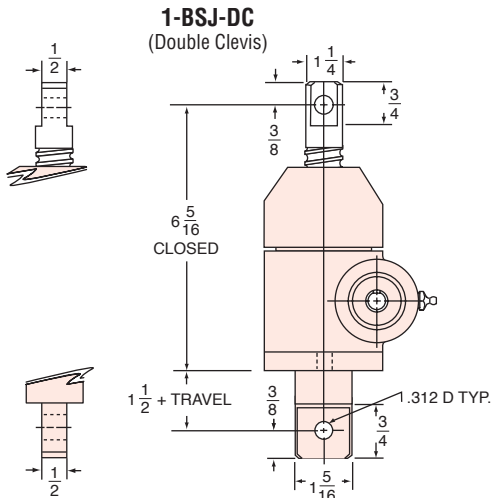
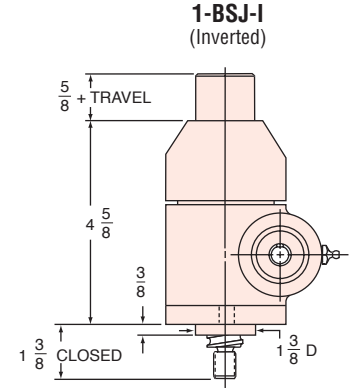
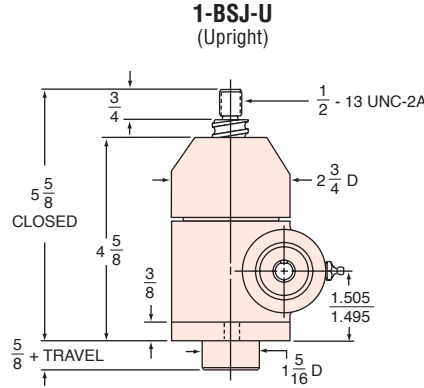
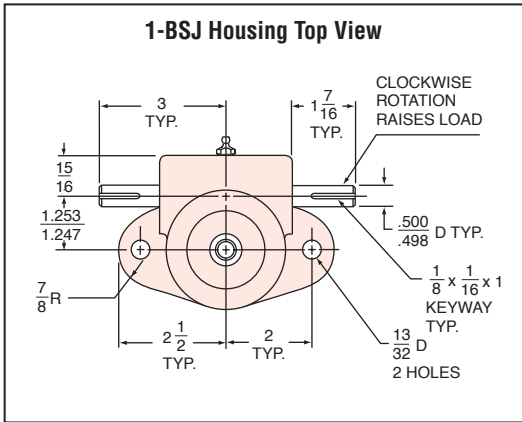


## 0.5-BSJ and 0.5HL-BSJ SCREW

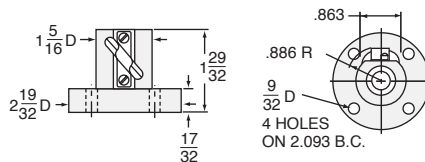
**SCREW (5-BSJ):** 0631-0200  
**(5HL-BSJ):** 0631-0500  
**ROOT DIAMETER:** 0.500  
**DRAG TORQUE:** 1 IN.-LB.  
**START TORQUE:** 2 x Running Torque  
**WEIGHT (Approx. in Pounds)**  
**"0" TRAVEL:** 3  
**PER INCH TRAVEL:** .03  
**GREASE:** .3

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
0.5-BSJ	5:1	.0095 in.-lbs.	.0105 in.-lbs.	1/3	1800 rpm	1800 rpm	1000 lbs.	1000 lbs.
	20:1	.0040 in.-lbs.	.0044 in.-lbs.	1/6	1800 rpm	1800 rpm	1000 lbs.	1000 lbs.
0.5HL-BSJ	5:1	.0242 in.-lbs.	.0266 in.-lbs.	1/3	868 rpm	790 rpm	496 lbs.	450 lbs.
	20:1	.0102 in.-lbs.	.0112 in.-lbs.	1/6	1030 rpm	936 rpm	588 lbs.	534 lbs.

**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.



**BALL NUT & FLANGE DIMENSIONS**



**1-BSJ STANDARD SCREW**

SCREW: 0750-0200

ROOT DIAMETER: 0.602

DRAG TORQUE: 3 IN.-LB.

START TORQUE: 2 x Running Torque

WEIGHT (Approx. in Pounds)

"0" TRAVEL: 8

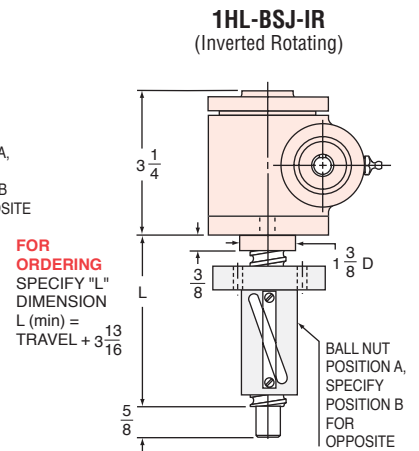
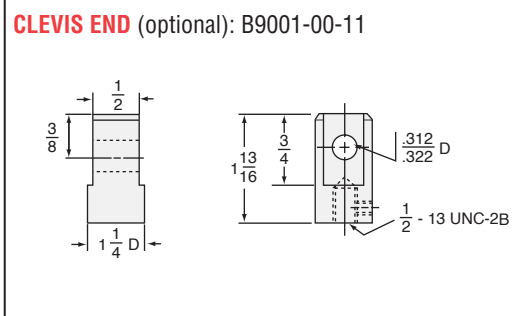
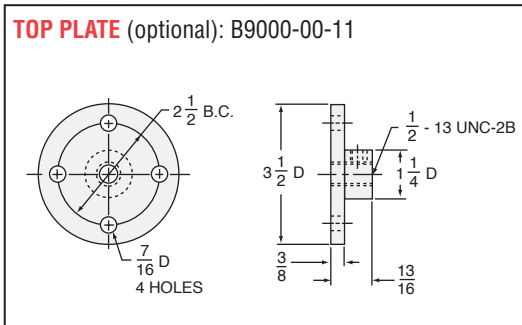
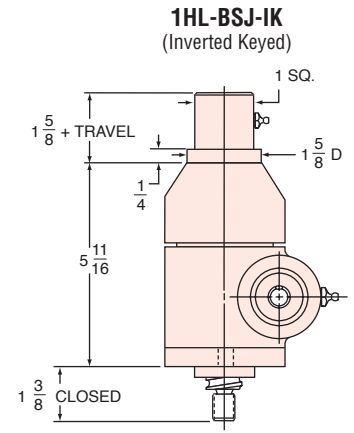
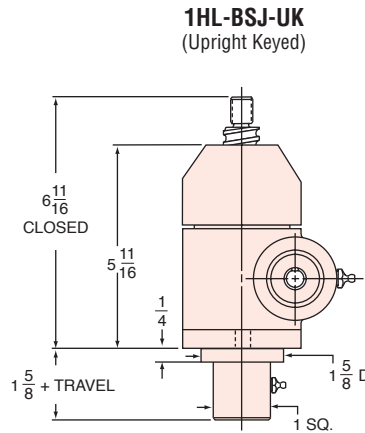
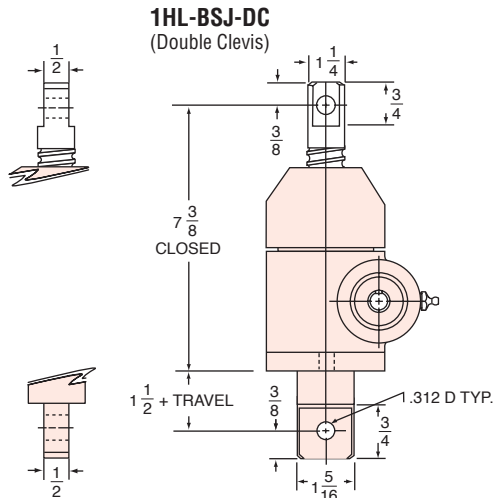
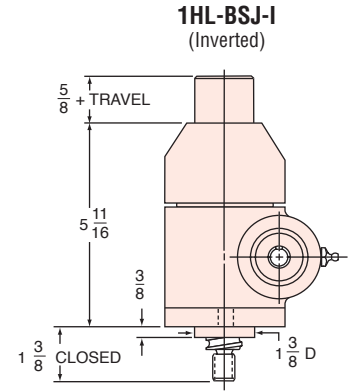
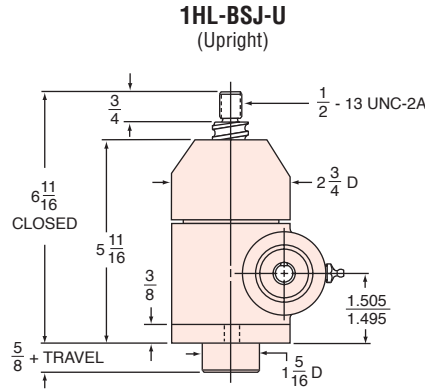
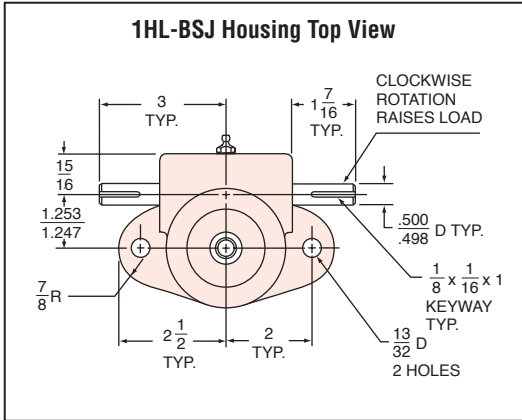
PER INCH TRAVEL: .04

GREASE: .5

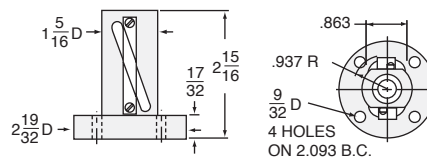
RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
5:1	25	.0095 in.-lbs.	.0104 in.-lbs.	1/2	1660 rpm	1515 rpm	1895 lbs.	1731 lbs.
20:1	100	.0045 in.-lbs.	.0049 in.-lbs.	1/4	1750 rpm	1608 rpm	2000 lbs.	1837 lbs.

**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.





### BALL NUT & FLANGE DIMENSIONS



**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 6 11/16

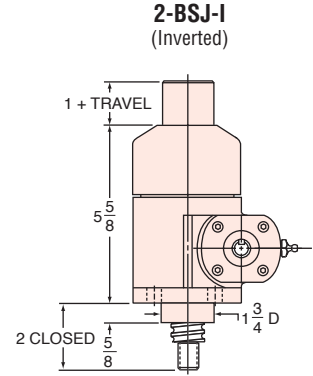
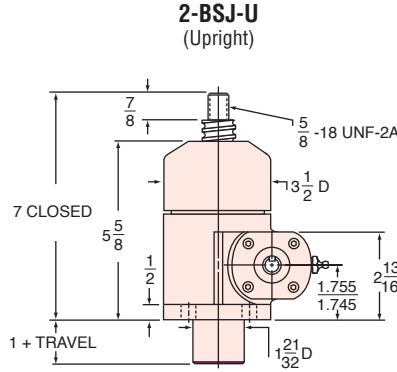
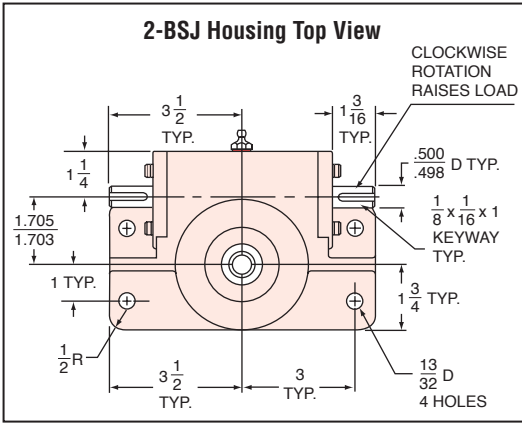
**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 3 13/16

### 1HL-BSJ STANDARD SCREW

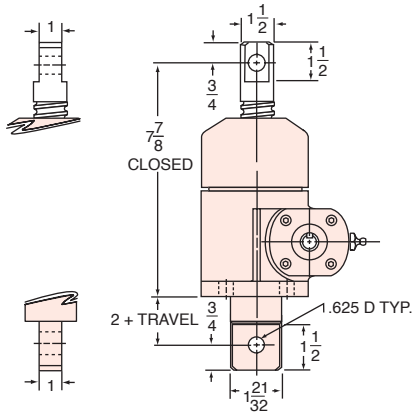
SCREW: 0750-0500  
ROOT DIAMETER: 0.602  
DRAG TORQUE: 3 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"D" TRAVEL: 8  
PER INCH TRAVEL: .04  
GREASE: .5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
5:1	10	.0241 in.-lbs.	.0265 in.-lbs.	1/2	654 rpm	595 rpm	747 lbs.	680 lbs.
20:1	40	.0114 in.-lbs.	.0125 in.-lbs.	1/4	691 rpm	628 rpm	790 lbs.	718 lbs.

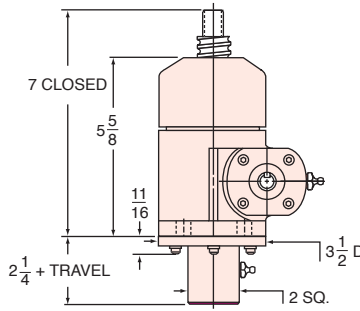
**CAUTION:** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.



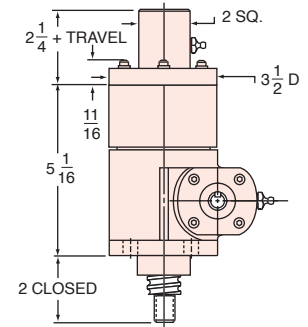
**2-BSJ-DC**  
(Double Clevis)



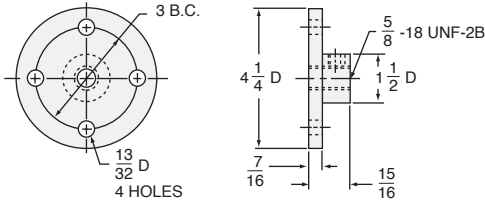
**2-BSJ-UK**  
(Upright Keyed)



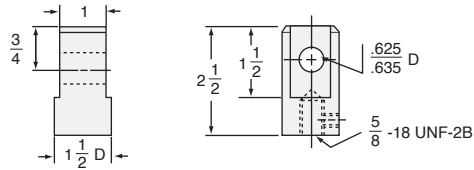
**2-BSJ-IK**  
(Inverted Keyed)



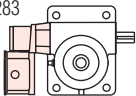
**TOP PLATE (optional): B9000-00-01**



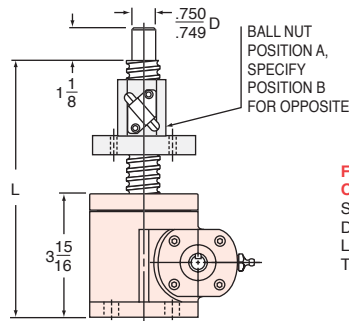
**CLEVIS END (optional): B9001-00-01**



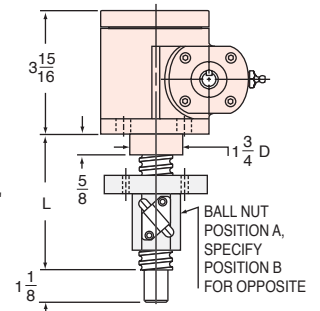
**ROTARY  
LIMIT SWITCH**  
see page 282-283



**2-BSJ-UR**  
(Upright Rotating)



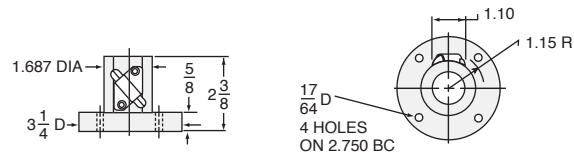
**2-BSJ-IR**  
(Inverted Rotating)



**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 7 5/16

**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 4

**BALL NUT & FLANGE DIMENSIONS**

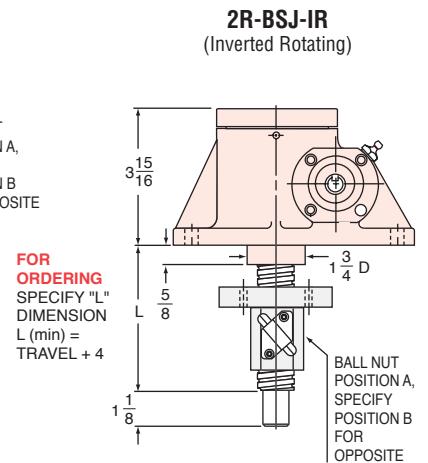
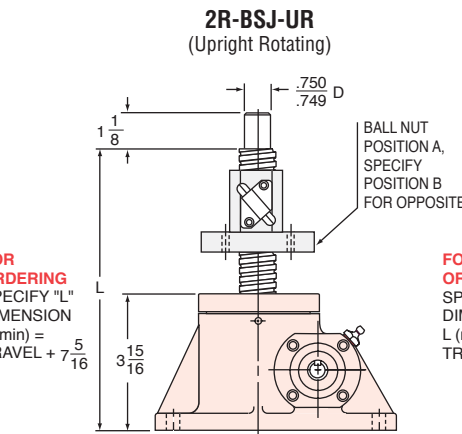
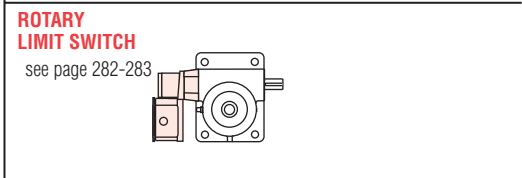
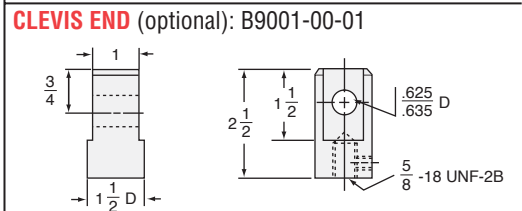
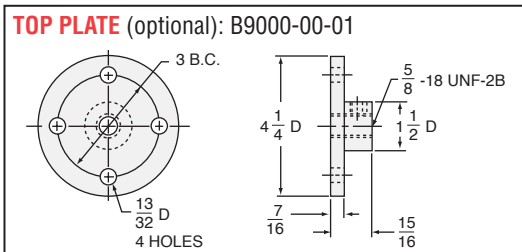
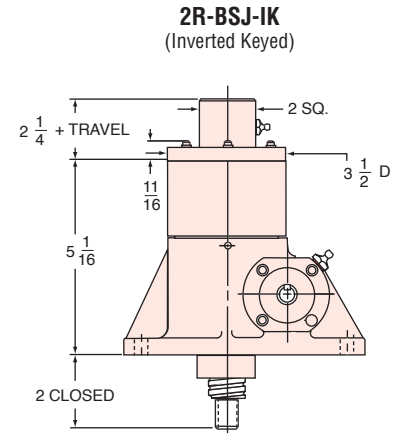
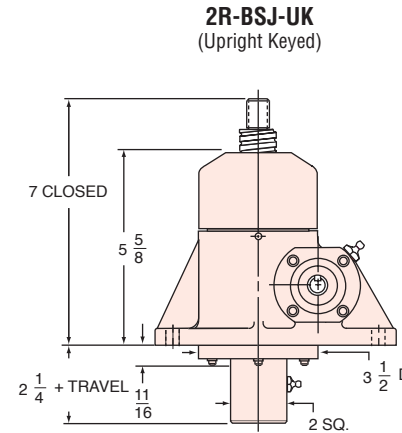
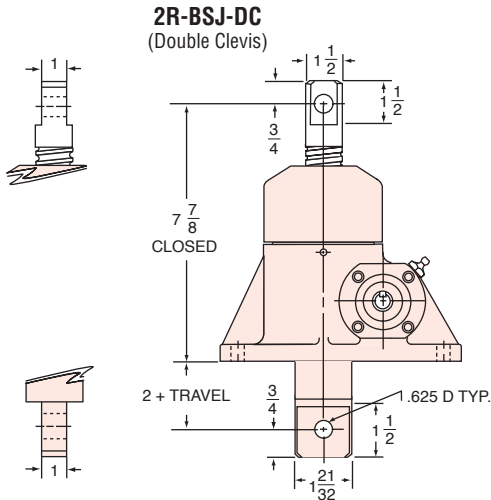
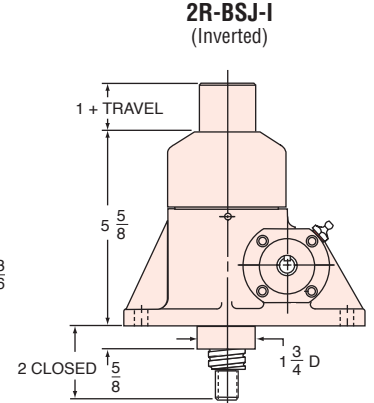
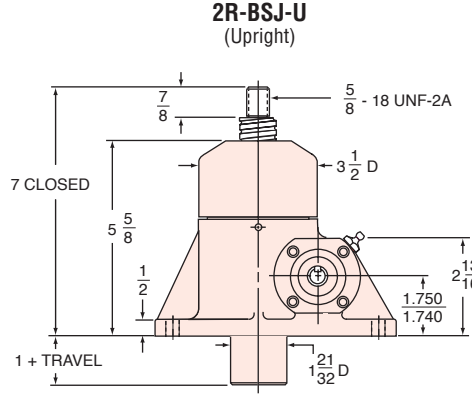
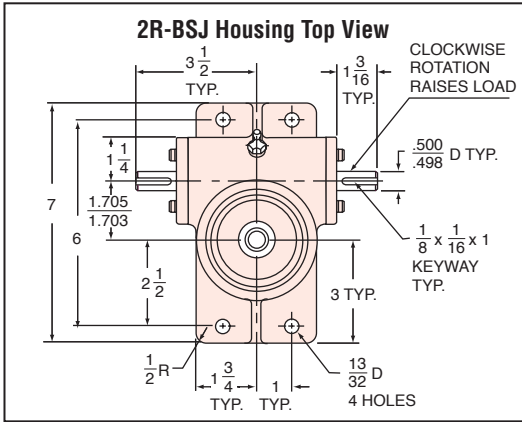


**2-BSJ STANDARD SCREW**

SCREW: 1000-0250  
 ROOT DIAMETER: 0.820  
 DRAG TORQUE: 4 IN.-LB.  
 START TORQUE: 2 x Running Torque  
 WEIGHT (Approx. in Pounds)  
 "0" TRAVEL: 18  
 PER INCH TRAVEL: .6  
 GREASE: .5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
6:1	24	.0100 in.-lbs.	.0110 in.-lbs.	2	1800 rpm	1636 rpm	4000 lbs.	3740 lbs.
12:1	48	.0064 in.-lbs.	.0070 in.-lbs.	1 1/2	1800 rpm	1636 rpm	4000 lbs.	3740 lbs.
24:1	96	.0043 in.-lbs.	.0047 in.-lbs.	1/2	1800 rpm	1636 rpm	4000 lbs.	3740 lbs.

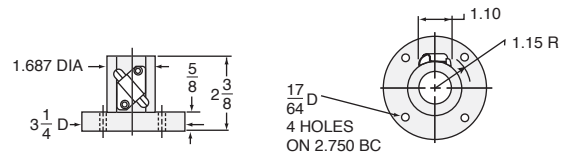
**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.



**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 7 5/16

**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 4

**BALL NUT & FLANGE DIMENSIONS**

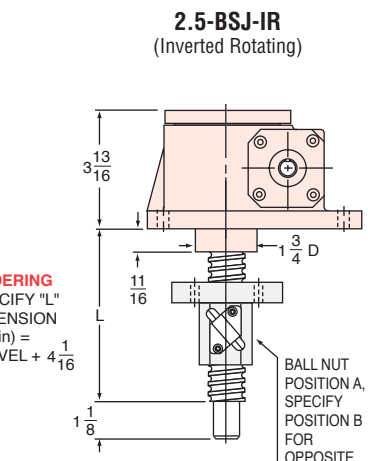
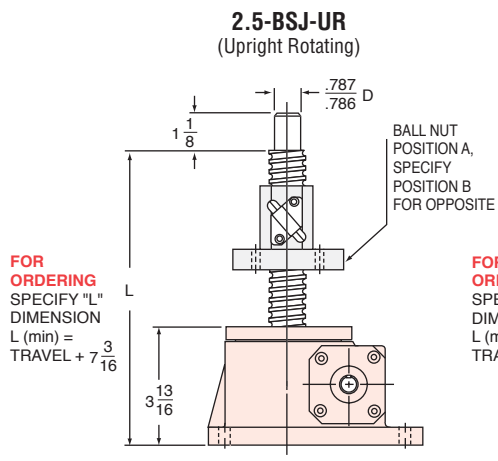
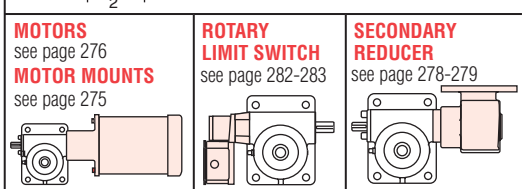
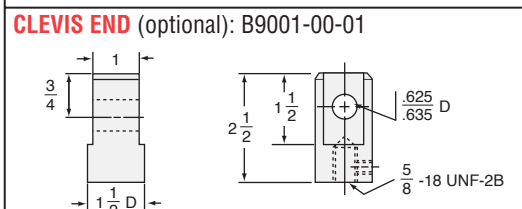
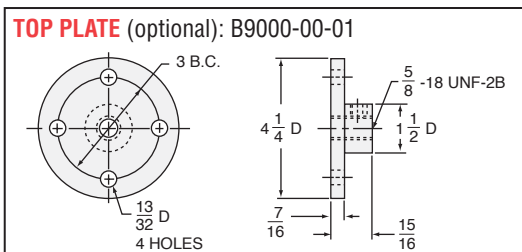
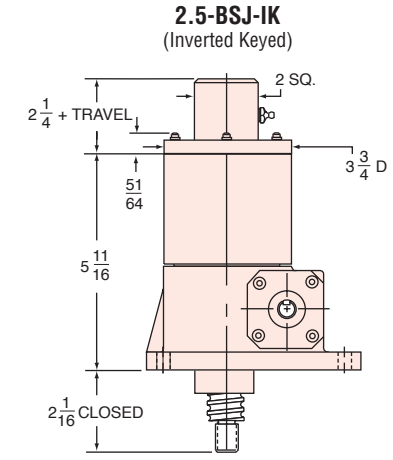
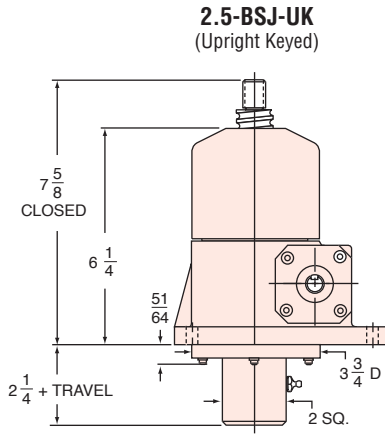
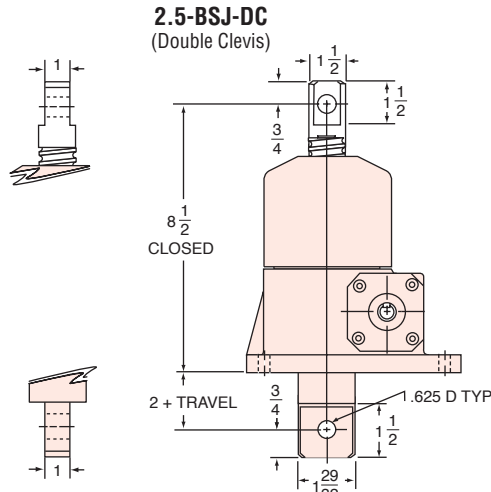
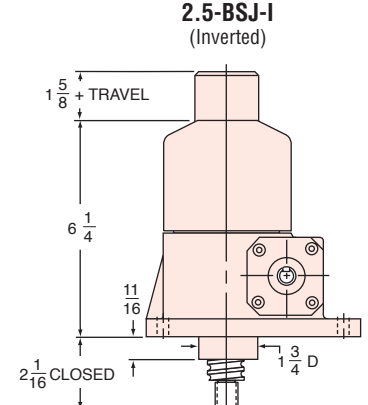
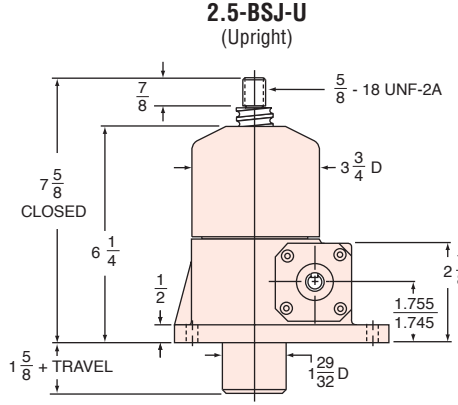
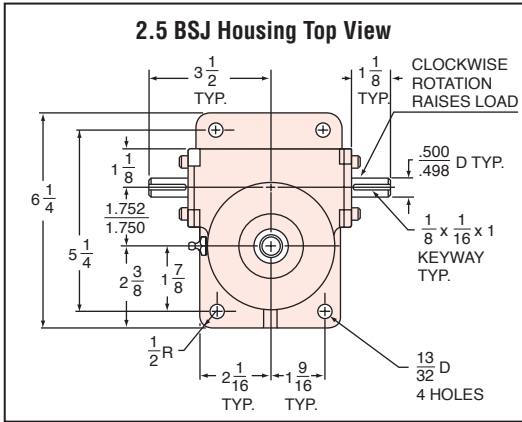


**2R-BSJ STANDARD SCREW**

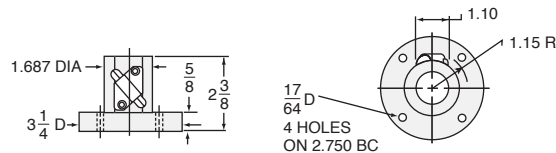
SCREW: 1000-0250  
ROOT DIAMETER: 0.820  
DRAG TORQUE: 4 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"0" TRAVEL: 18  
PER INCH TRAVEL: .6  
GREASE: .5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
6:1	24	.0100 in.-lbs.	.0110 in.-lbs.	2	1800 rpm	1636 rpm	4000 lbs.	3740 lbs.
12:1	48	.0064 in.-lbs.	.0070 in.-lbs.	1 1/2	1800 rpm	1636 rpm	4000 lbs.	3740 lbs.
24:1	96	.0043 in.-lbs.	.0047 in.-lbs.	1/2	1800 rpm	1636 rpm	4000 lbs.	3740 lbs.

**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.



**BALL NUT & FLANGE DIMENSIONS**

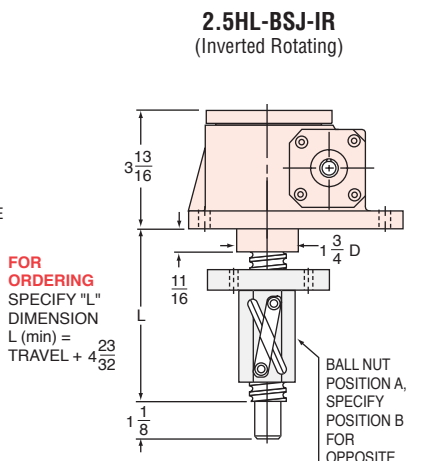
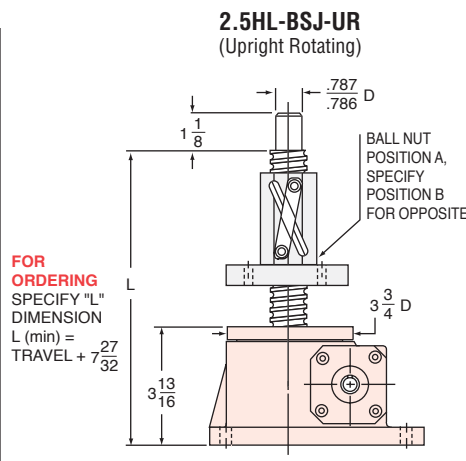
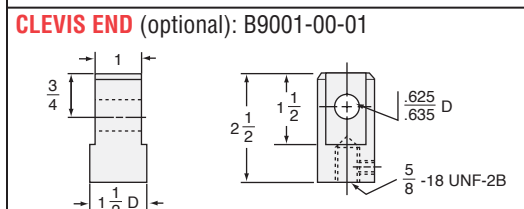
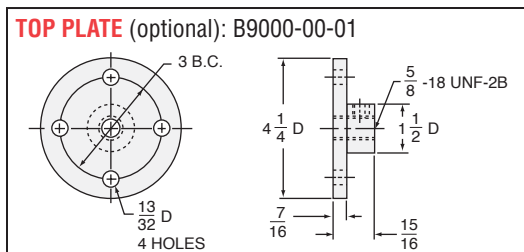
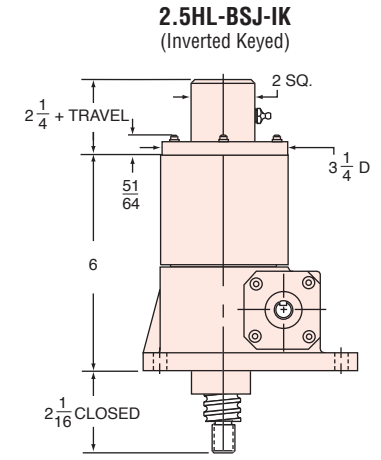
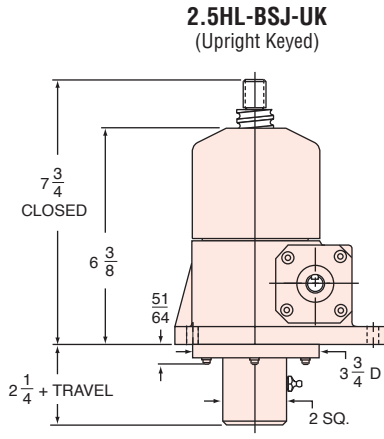
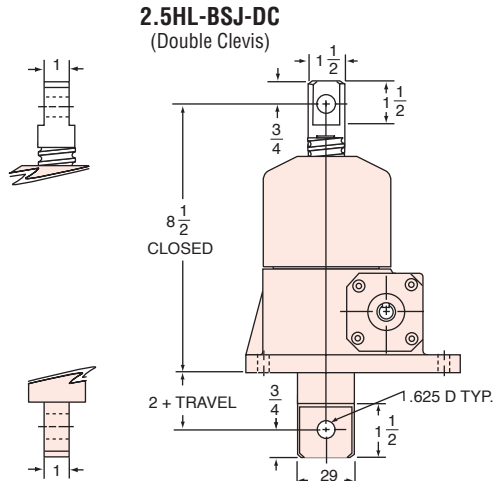
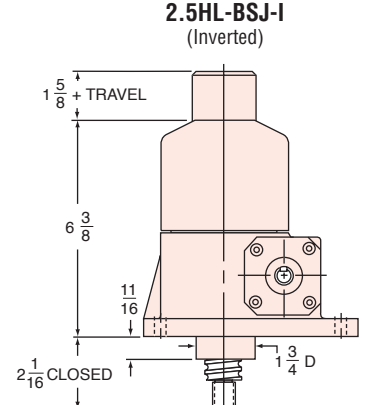
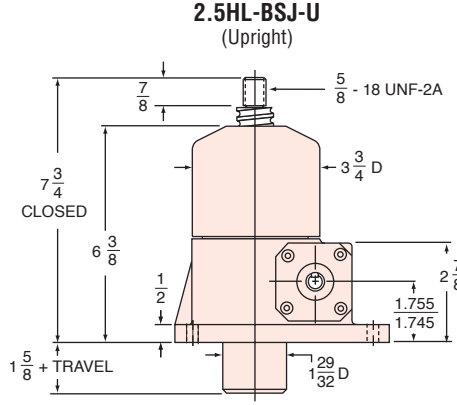
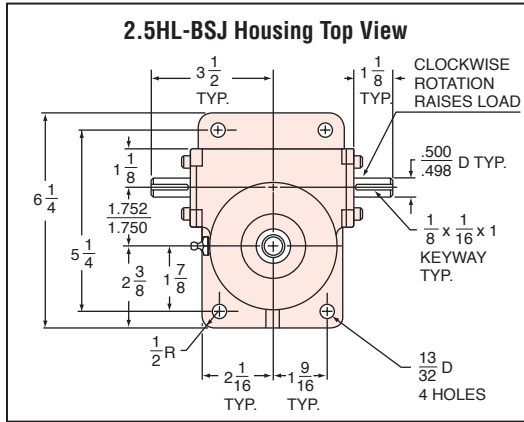


**2.5-BSJ STANDARD SCREW**

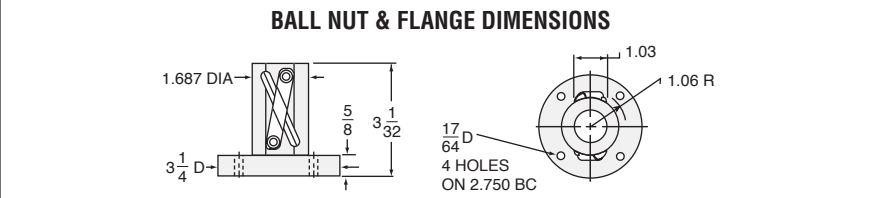
SCREW: 1000-0250  
 ROOT DIAMETER: 0.820  
 DRAG TORQUE: 5 IN.-LB.  
 START TORQUE: 2 x Running Torque  
 WEIGHT (Approx. in Pounds)  
 "0" TRAVEL: 17  
 PER INCH TRAVEL: 0.6  
 GREASE: 0.5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
6:1	24	.0102 in.-lbs.	.0112 in.-lbs.	2	1800 rpm	1636 rpm	5000 lbs.	4674 lbs.
12:1	48	.0061 in.-lbs.	.0067 in.-lbs.	1 1/2	1800 rpm	1636 rpm	5000 lbs.	4674 lbs.
24:1	96	.0042 in.-lbs.	.0046 in.-lbs.	1/2	1500 rpm	1370 rpm	4287 lbs.	3914 lbs.

**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.



<p><b>MOTORS</b> see page 276</p> <p><b>MOTOR MOUNTS</b> see page 275</p>	<p><b>ROTARY LIMIT SWITCH</b> see page 282-283</p>	<p><b>SECONDARY REDUCER</b> see page 278-279</p>
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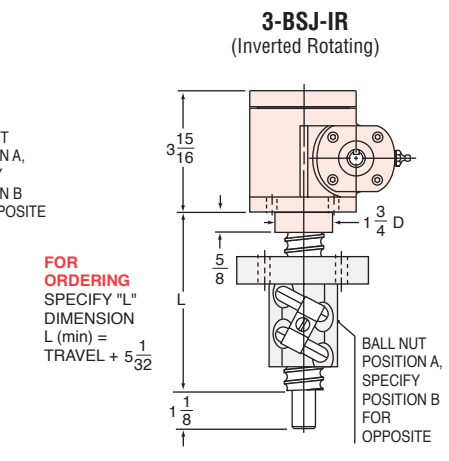
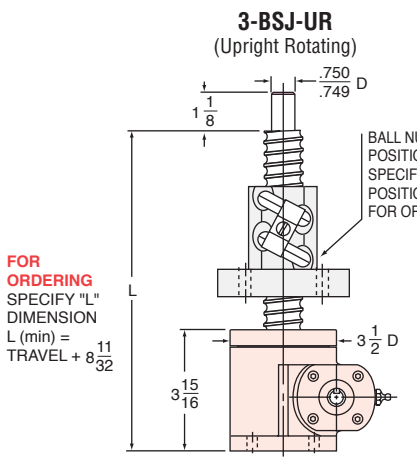
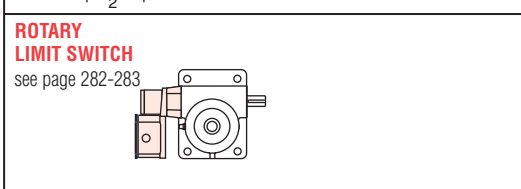
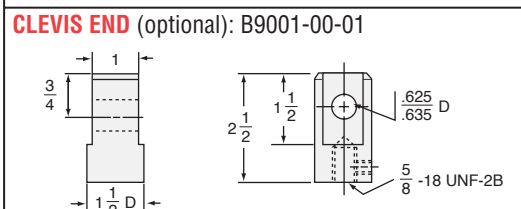
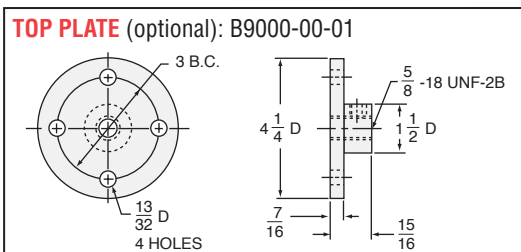
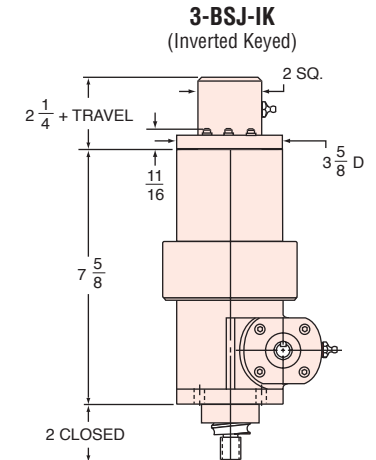
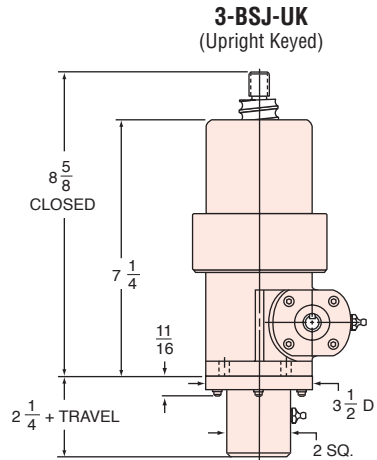
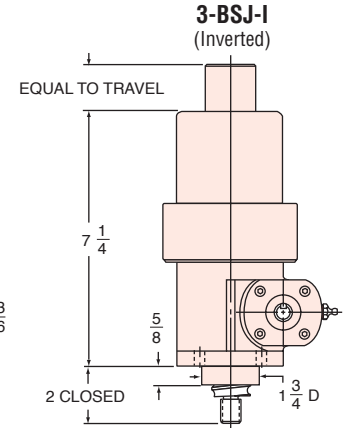
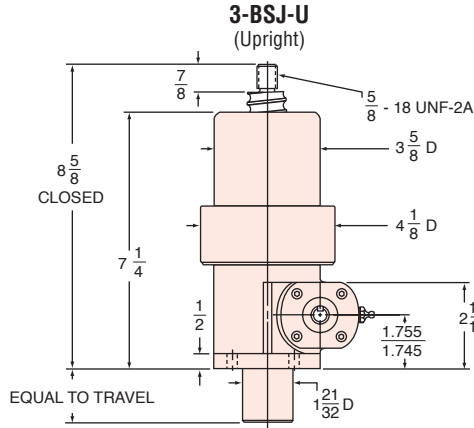
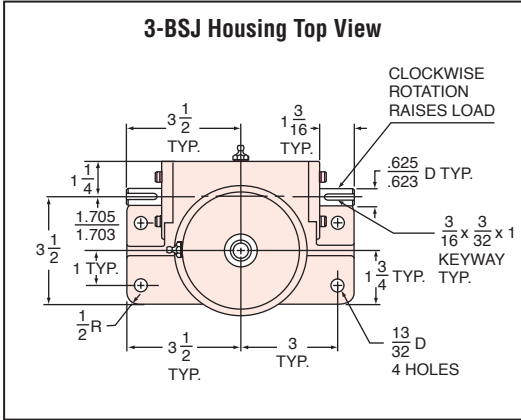
**2.5HL-BSJ STANDARD SCREW**

SCREW: 1000-1000  
ROOT DIAMETER: 0.820  
DRAG TORQUE: 5 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"0" TRAVEL: 17  
PER INCH TRAVEL: .6  
GREASE: .5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
6:1	6	.0404 in.-lbs.	.0444 in.-lbs.	2	624 rpm	567 rpm	1783 lbs.	1620 lbs.
12:1	12	.0244 in.-lbs.	.0268 in.-lbs.	1 1/2	775 rpm	705 rpm	2214 lbs.	2013 lbs.
24:1	24	.0170 in.-lbs.	.0187 in.-lbs.	1/2	371 rpm	337 rpm	1059 lbs.	964 lbs.

**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.

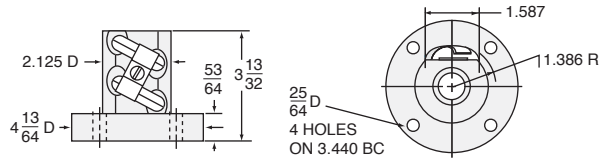
The specifications and data in this publication are believed to be accurate and reliable. However, it is the responsibility of the product user to determine the suitability of Nook Industries products for a specific application. While defective products will be replaced without charge if promptly returned, no liability is assumed beyond such replacement.



**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 8 11/32

**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 5 1/32

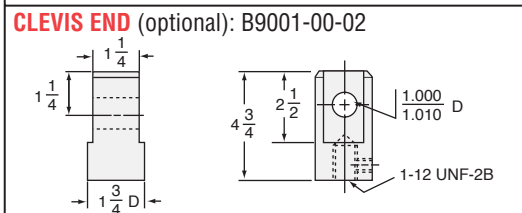
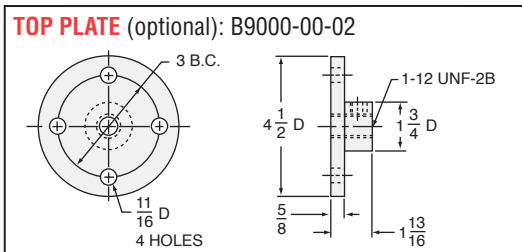
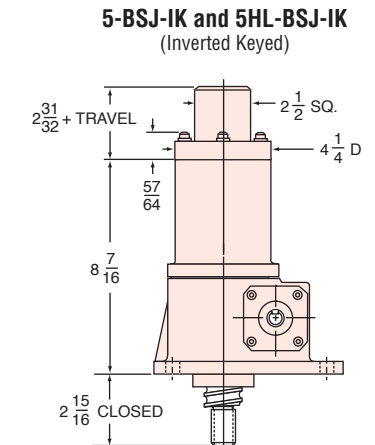
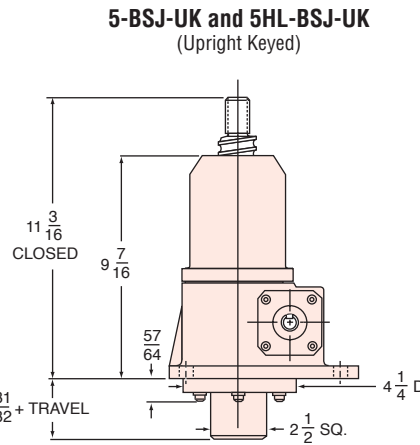
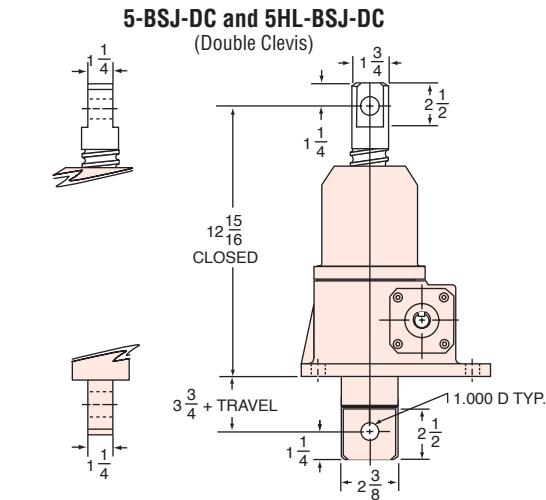
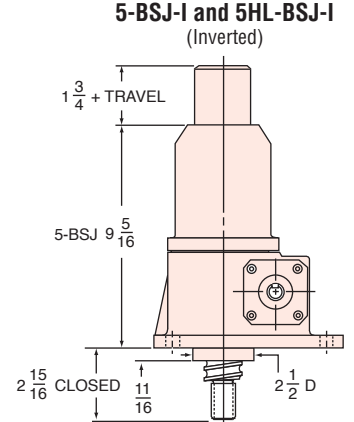
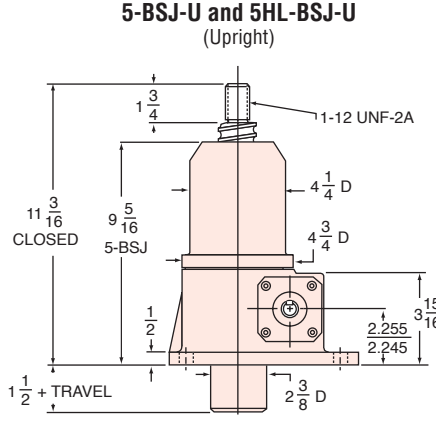
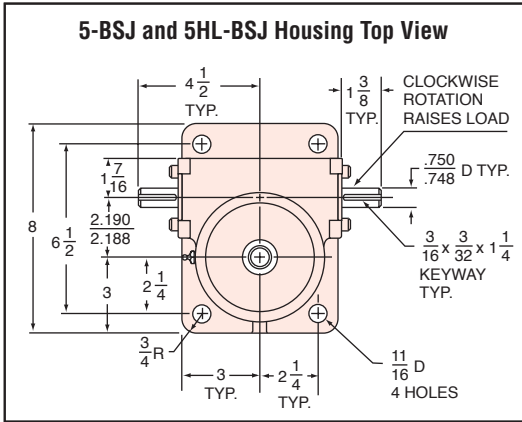
**BALL NUT & FLANGE DIMENSIONS**



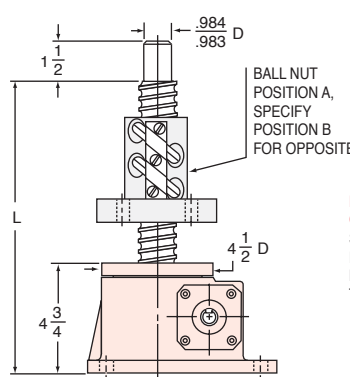
**3-BSJ STANDARD SCREW**  
SCREW: 1171-0413  
ROOT DIAMETER: 0.870  
DRAG TORQUE: 6 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"0" TRAVEL: 18.5  
PER INCH TRAVEL: .6  
GREASE: .5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
6:1	14.53	.0167 in.-lbs.	.0184 in.-lbs.	2	1260 rpm	1142 rpm	4313 lbs.	3914 lbs.
24:1	58.10	.0070 in.-lbs.	.0077 in.-lbs.	1/2	750 rpm	682 rpm	2572 lbs.	2338 lbs.

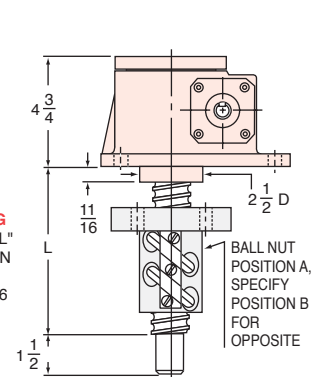
**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.



### 5-BSJ-UR and 5HL-BSJ-UR (Upright Rotating)



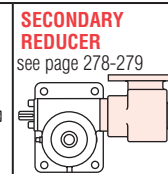
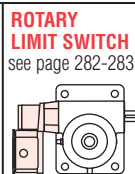
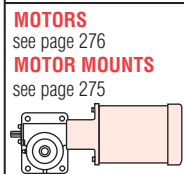
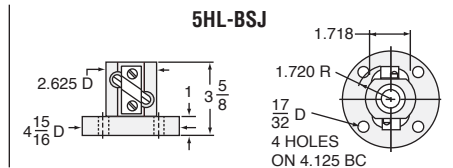
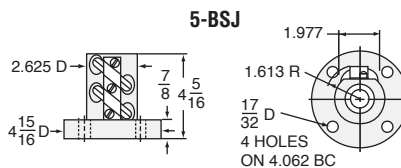
### 5-BSJ-IR and 5HL-BSJ-IR (Inverted Rotating)



**FOR ORDERING**  
SPECIFY "L"  
DIMENSION  
L (min) =  
TRAVEL + 10 1/16

**FOR ORDERING**  
SPECIFY "L"  
DIMENSION  
L (min) =  
TRAVEL + 6

### BALL NUT & FLANGE DIMENSIONS

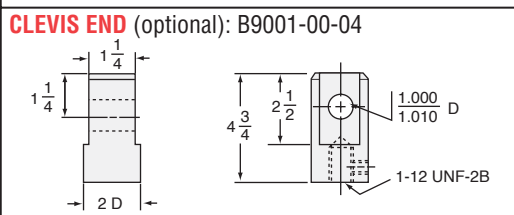
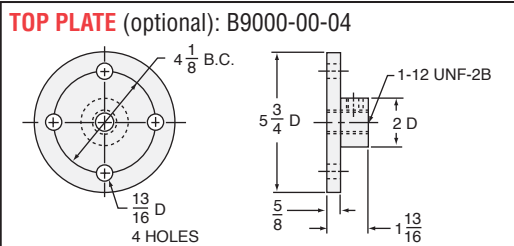
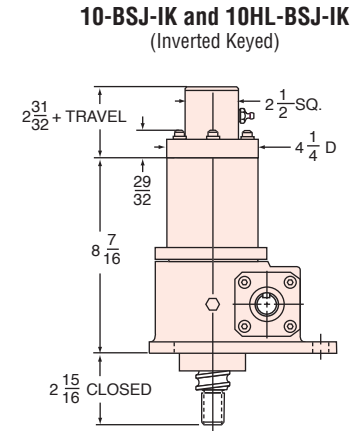
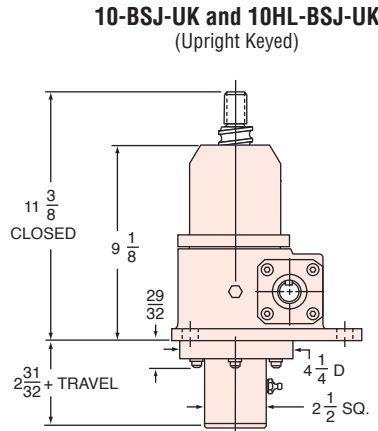
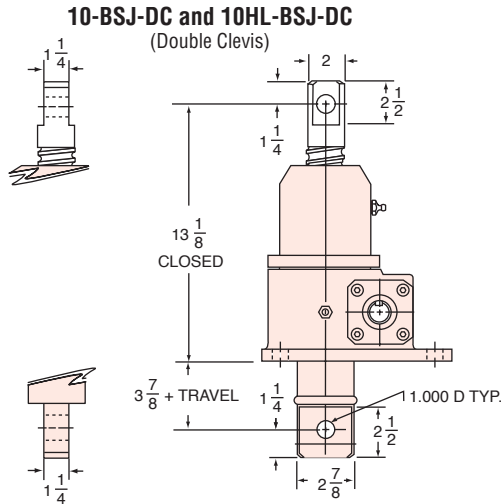
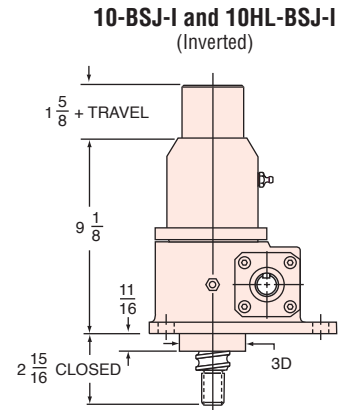
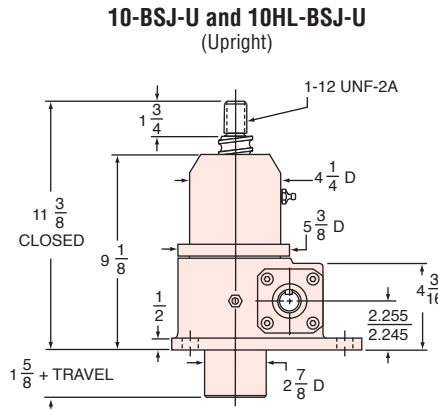
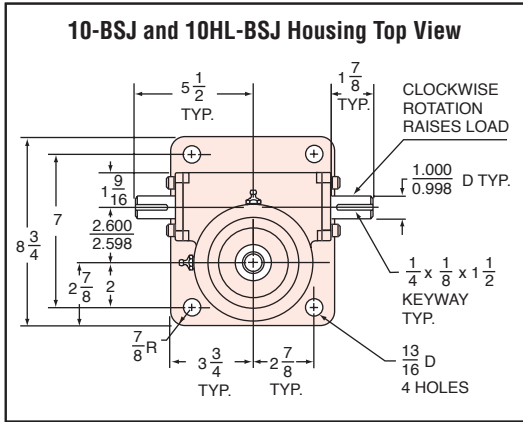


### 5-BSJ and 5HL-BSJ SCREW

SCREW (5-BSJ):	1500-0473
(5HL-BSJ):	1500-1000
ROOT DIAMETER:	1.140
DRAG TORQUE:	10 IN.-LB.
START TORQUE:	2 x Running Torque
WEIGHT (Approx. in Pounds)	
"0" TRAVEL:	35
PER INCH TRAVEL:	.6
GREASE:	1

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM		
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED	
5-BSJ	6:1	12.66	.0183 in.-lbs.	.0201 in.-lbs.	3	1033 rpm	941 rpm	5904 lbs.	5375 lbs.
	24:1	50.66	.0073 in.-lbs.	.0080 in.-lbs.	3/4	647 rpm	590 rpm	3700 lbs.	3376 lbs.
5HL-BSJ	6:1	6	.0387 in.-lbs.	.0426 in.-lbs.	3	488 rpm	444 rpm	2792 lbs.	2537 lbs.
	24:1	24	.0153 in.-lbs.	.0168 in.-lbs.	3/4	308 rpm	280 rpm	1765 lbs.	1600 lbs.

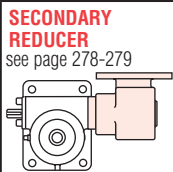
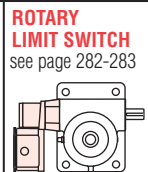
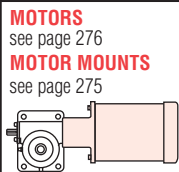
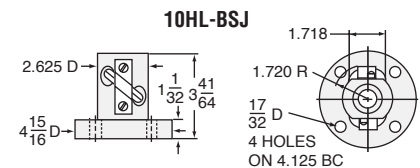
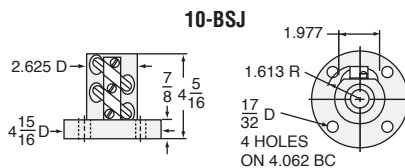
**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.



**FOR ORDERING**  
SPECIFY "L"  
DIMENSION  
L (min) =  
TRAVEL + 10 3/16

**FOR ORDERING**  
SPECIFY "L"  
DIMENSION  
L (min) =  
TRAVEL + 6

### BALL NUT & FLANGE DIMENSIONS

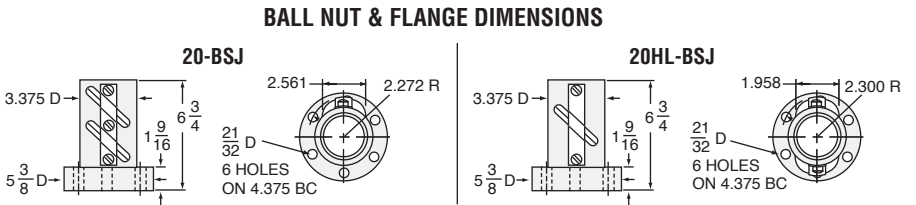
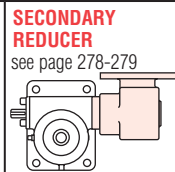
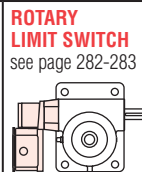
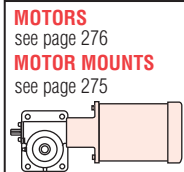
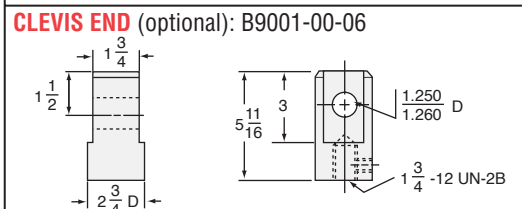
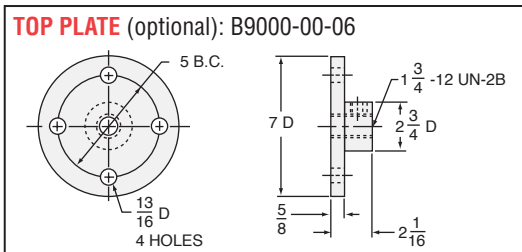
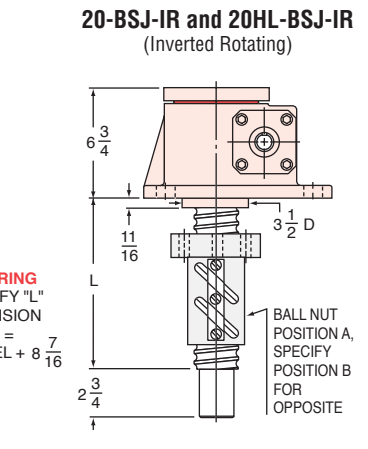
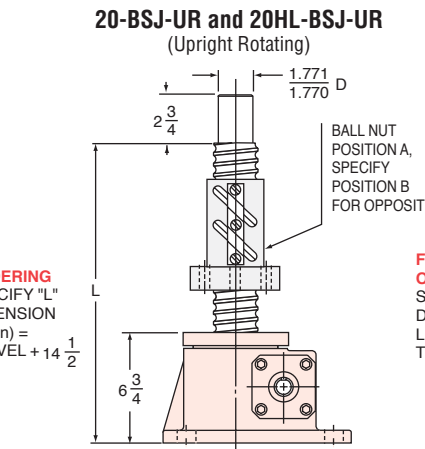
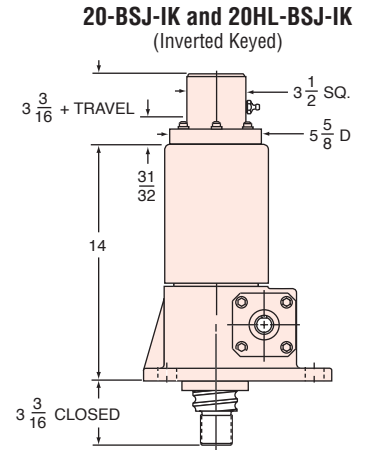
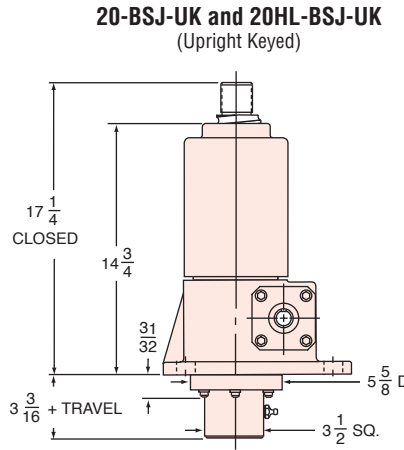
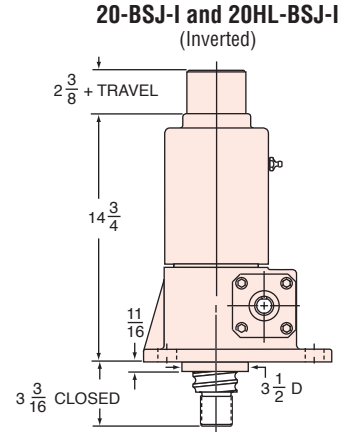
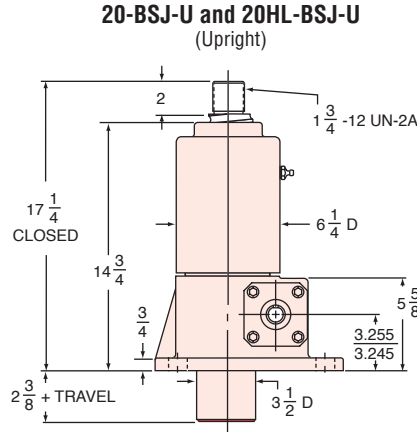
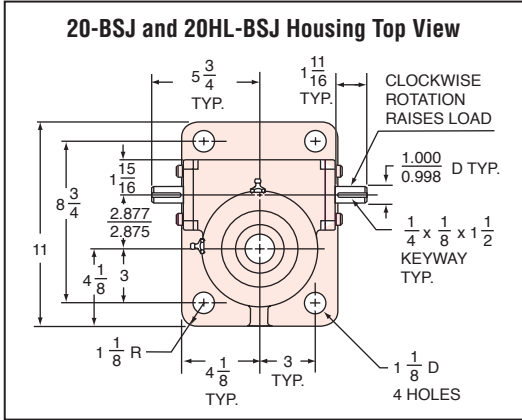


**10-BSJ and 10HL-BSJ SCREW**  
SCREW (10-BSJ): 1500-0473  
(10HL-BSJ): 1500-1000  
ROOT DIAMETER: 1.140  
DRAG TORQUE: 20 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"O" TRAVEL: 50  
PER INCH TRAVEL: .8  
GREASE: 1.5

	RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
			NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
10-BSJ	8:1	16.88	.0151 in.-lbs.	.0166 in.-lbs.	5	1043 rpm	949 rpm	11925 lbs.	10847 lbs.
	24:1	50.66	.0077 in.-lbs.	.0085 in.-lbs.	1 1/2	618 rpm	556 rpm	7016 lbs.	6355 lbs.
10HL-BSJ	8:1	8	.0319 in.-lbs.	.0351 in.-lbs.	5	494 rpm	449 rpm	5645 lbs.	5132 lbs.
	24:1	24	.0162 in.-lbs.	.0178 in.-lbs.	1 1/2	293 rpm	266 rpm	3334 lbs.	3044 lbs.

**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.

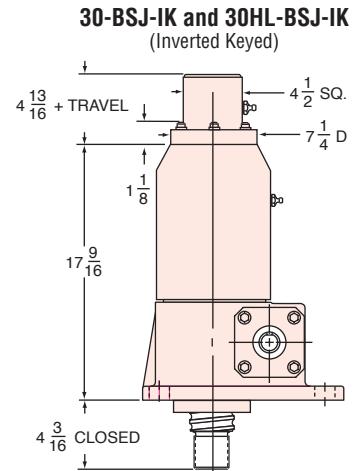
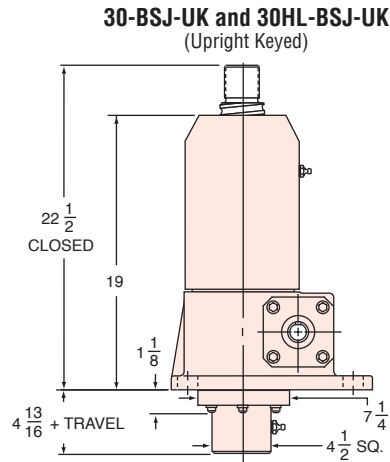
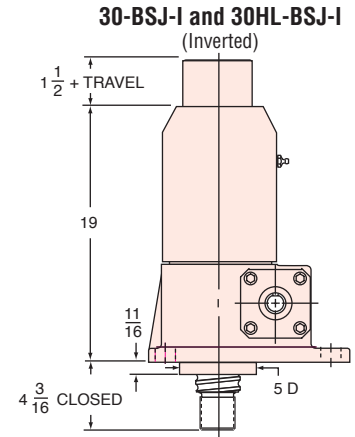
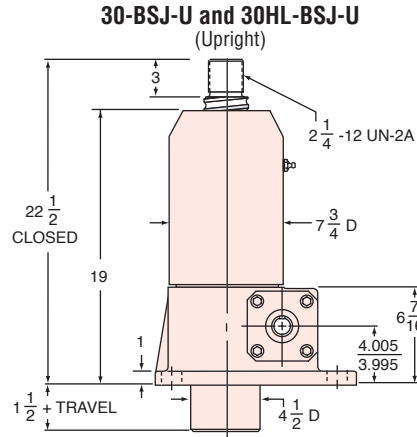
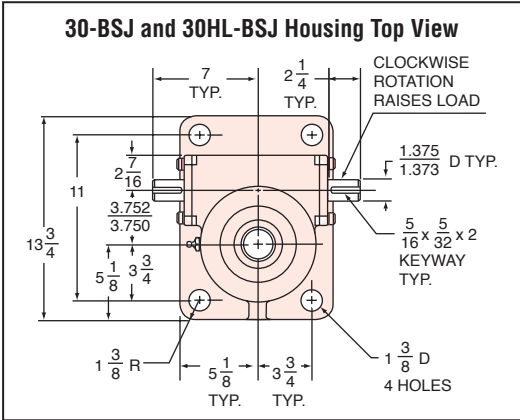




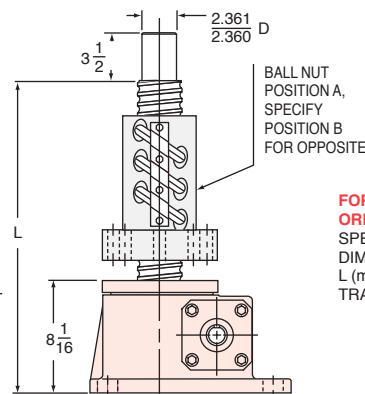
**20-BSJ and 20HL-BSJ SCREW**  
SCREW (20-BSJ): 2250-0500  
(20HL-BSJ): 2250-1000  
ROOT DIAMETER: 1.850  
DRAG TORQUE: 40 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"0" TRAVEL: 85  
PER INCH TRAVEL: 1.5  
GREASE: 2.2

	RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
			NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
20-BSJ	8:1	16	.0157 in.-lbs.	.0173 in.-lbs.	7 1/2	755 rpm	683 rpm	17204 lbs.	15613 lbs.
	24:1	48	.0079 in.-lbs.	.0087 in.-lbs.	2 1/2	501 rpm	453 rpm	11397 lbs.	10349 lbs.
20HL-BSJ	8:1	8	.0313 in.-lbs.	.0344 in.-lbs.	7 1/2	377 rpm	343 rpm	8629 lbs.	7840 lbs.
	24:1	24	.0157 in.-lbs.	.0173 in.-lbs.	2 1/2	251 rpm	228 rpm	5737 lbs.	5211 lbs.

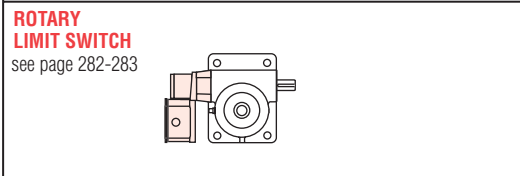
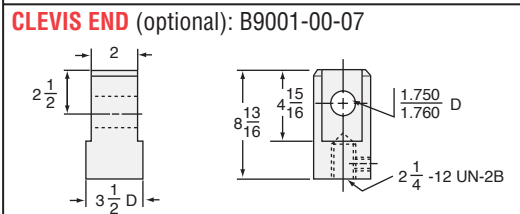
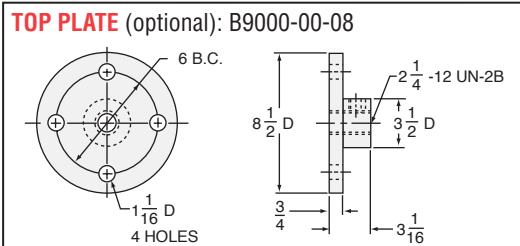
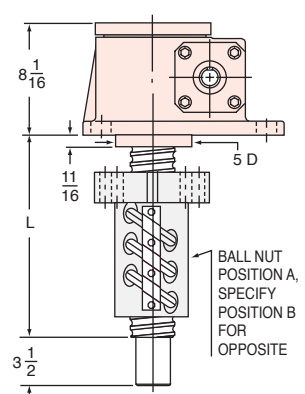
**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.



### 30-BSJ-UR and 30HL-BSJ-UR (Upright Rotating)



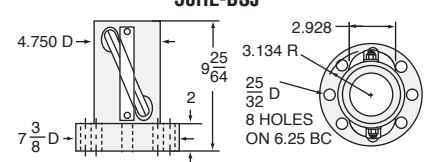
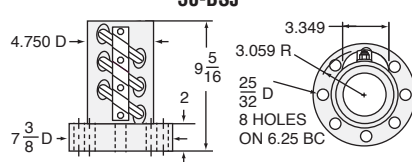
### 30-BSJ-IR and 30HL-BSJ-IR (Inverted Rotating)



**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 18 3/8

**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 11

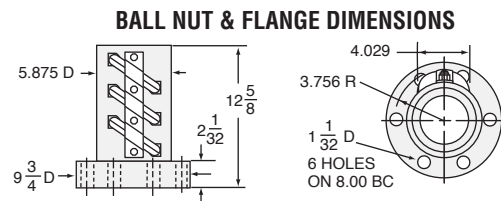
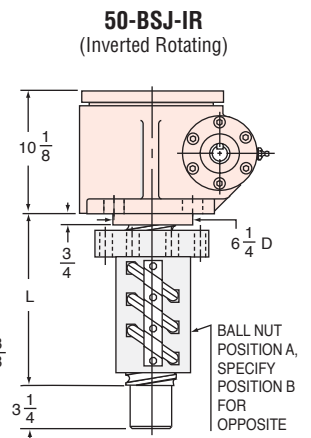
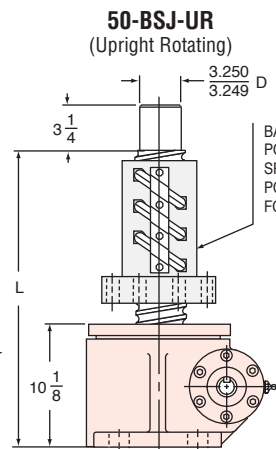
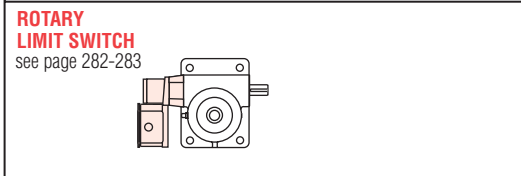
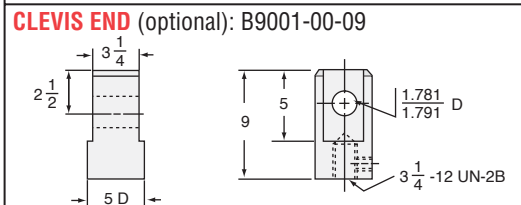
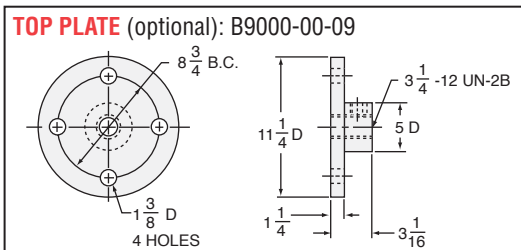
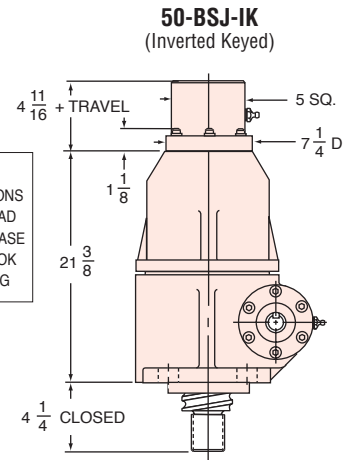
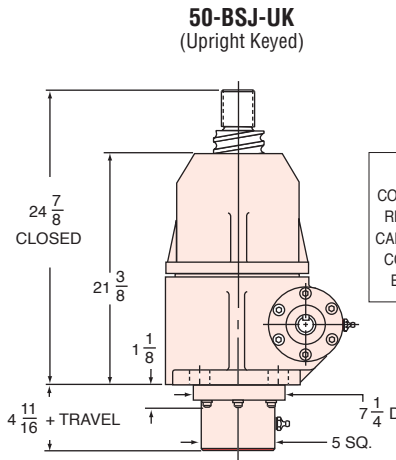
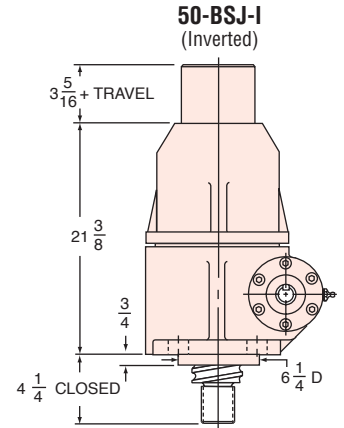
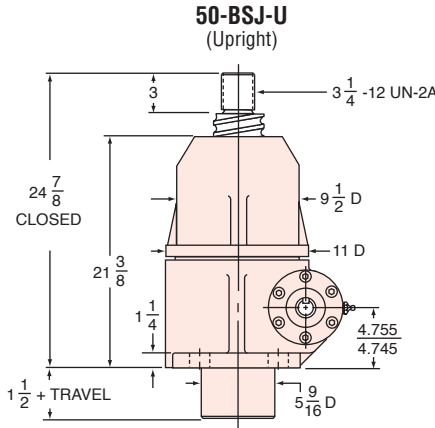
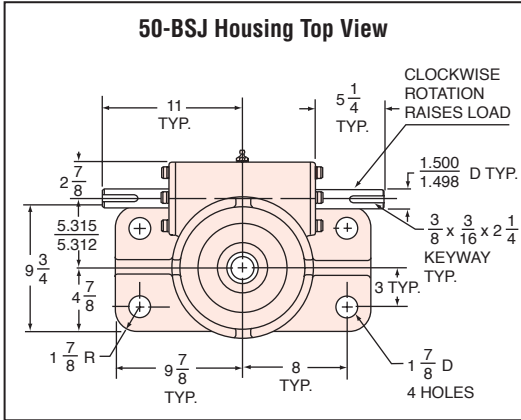
### BALL NUT & FLANGE DIMENSIONS



**30-BSJ and 30HL-BSJ SCREW**  
SCREW (30-BSJ): 3000-0660  
(30HL-BSJ): 3000-1500  
ROOT DIAMETER: 2.480  
DRAG TORQUE: 60 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds):  
"0" TRAVEL: 220  
PER INCH TRAVEL: 2.4  
GREASE: 3.5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
30-BSJ 10 2/3:1	16.16	.0162 in.-lbs.	.0178 in.-lbs.	11	715 rpm	649 rpm	24515 lbs.	22250 lbs.
30-BSJ 32:1	48.48	.0084 in.-lbs.	.0092 in.-lbs.	3 1/2	438 rpm	399 rpm	15006 lbs.	13680 lbs.
30HL-BSJ 10 2/3:1	7.11	.0367 in.-lbs.	.0404 in.-lbs.	11	315 rpm	286 rpm	10794 lbs.	9805 lbs.
30HL-BSJ 32:1	21.33	.0191 in.-lbs.	.0210 in.-lbs.	3 1/2	193 rpm	175 rpm	6600 lbs.	6000 lbs.

**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.



**50-BSJ STANDARD SCREW**

SCREW: 4000-1000

ROOT DIAMETER: 3.338

DRAG TORQUE: 90 IN.-LB.

START TORQUE: 2 x Running Torque

WEIGHT (Approx. in Pounds)

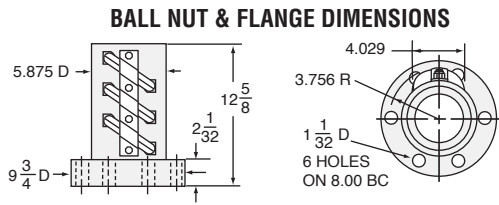
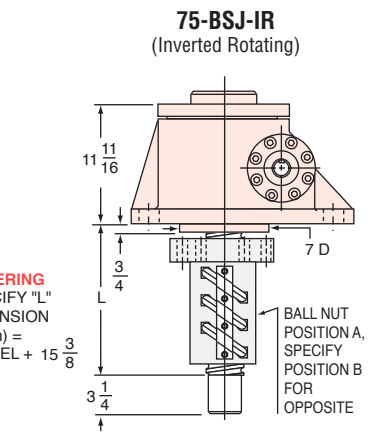
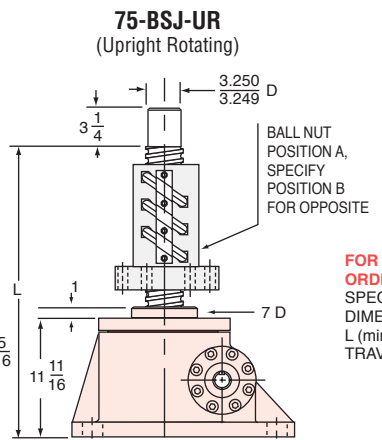
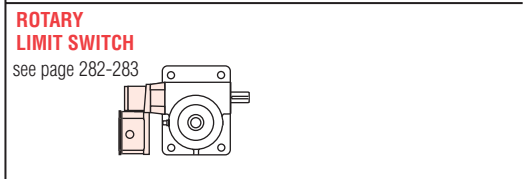
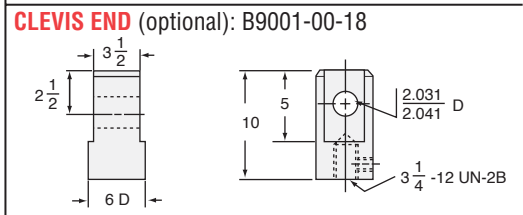
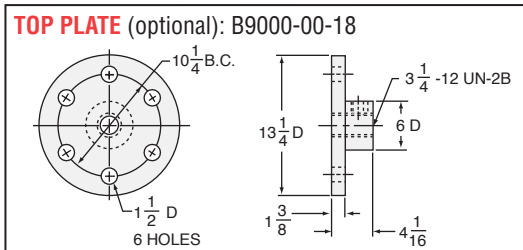
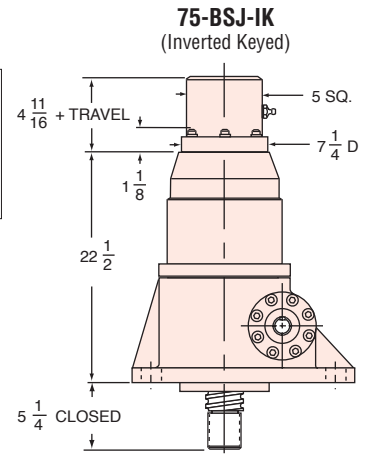
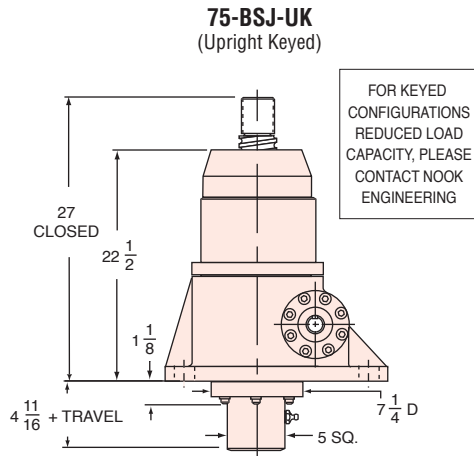
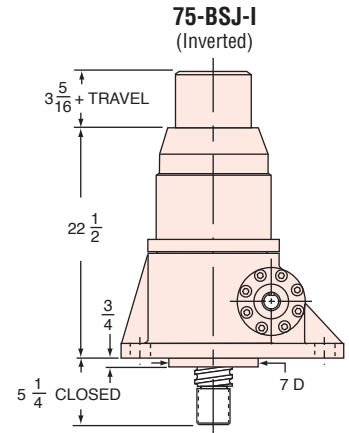
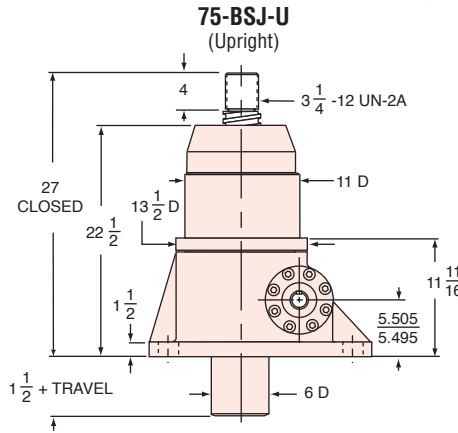
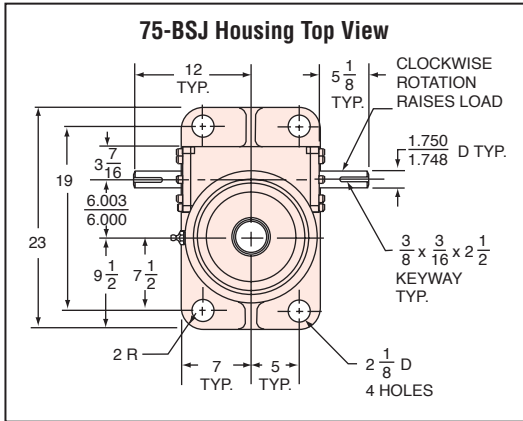
"0" TRAVEL: 490

PER INCH TRAVEL: 5.0

GREASE: 5.0

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
10 1/2:1	10.66	.0256 in.-lbs.	.0281 in.-lbs.	16	394 rpm	359 rpm	22509 lbs.	20506 lbs.
32:1	32	.0139 in.-lbs.	.0152 in.-lbs.	5	227 rpm	207 rpm	12955 lbs.	11847 lbs.

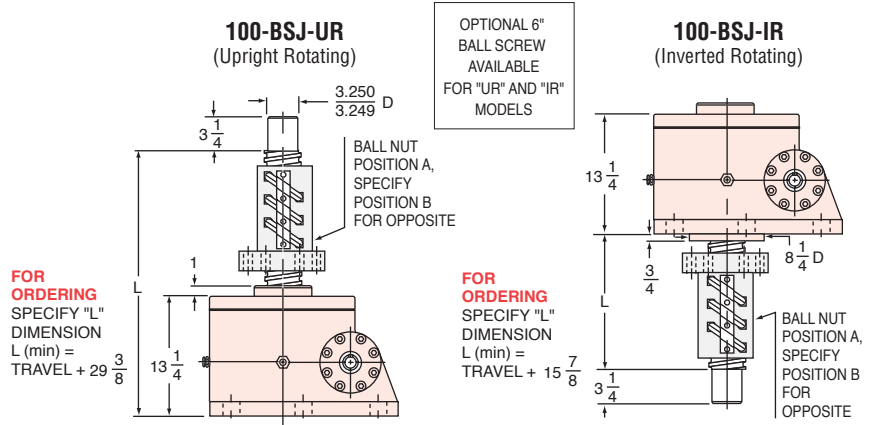
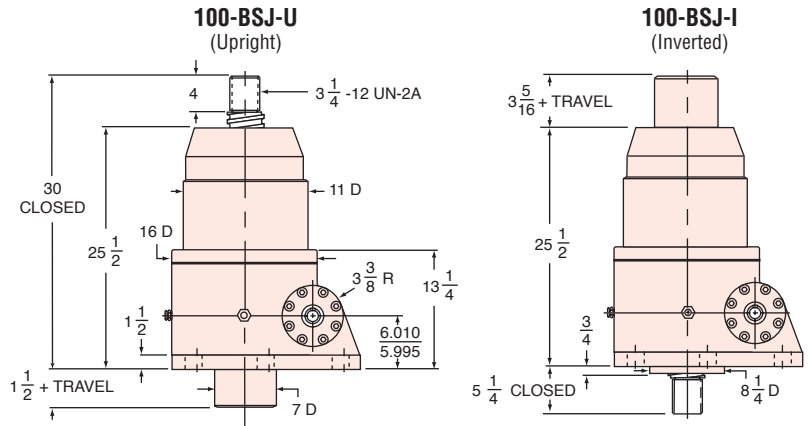
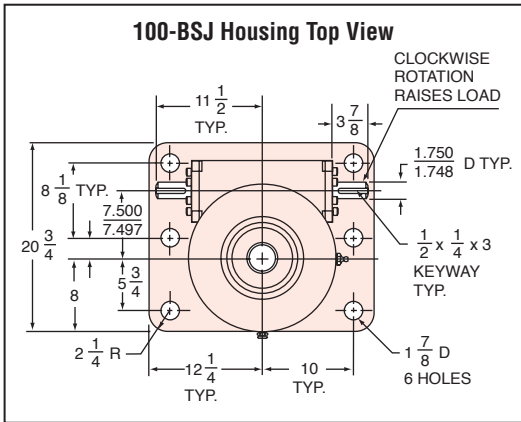
**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.



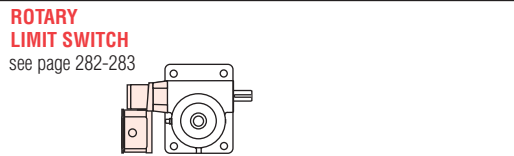
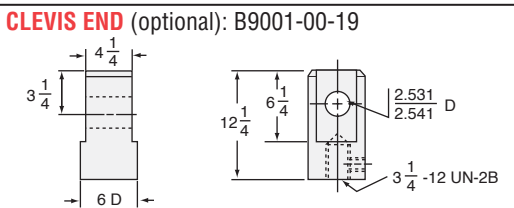
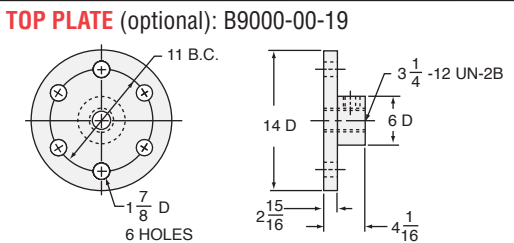
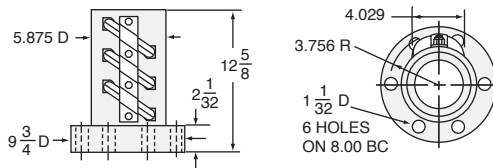
**75-BSJ STANDARD SCREW**  
 SCREW: 4000-1000  
 ROOT DIAMETER: 3.338  
 DRAG TORQUE: 155 IN.-LB.  
 START TORQUE: 2 x Running Torque  
 WEIGHT (Approx. in Pounds)  
 "0" TRAVEL: 650  
 PER INCH TRAVEL: 5.0  
 GREASE: 9.0

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
10 2/3 : 1	10.66	.0244 in.-lbs.	.0268 in.-lbs.	28	482 rpm	439 rpm	41326 lbs.	37627 lbs.
32 : 1	32	.0112 in.-lbs.	.0123 in.-lbs.	9	338 rpm	307 rpm	28970 lbs.	26352 lbs.

**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.



### BALL NUT & FLANGE DIMENSIONS



### 100-BSJ STANDARD SCREW

**SCREW:** 4000-1000  
**ROOT DIAMETER:** 3.338  
**DRAG TORQUE:** 205 IN.-LB.  
**START TORQUE:** 2 x Running Torque  
**WEIGHT (Approx. in Pounds)**  
"0" TRAVEL: 1,100  
PER INCH TRAVEL: 5.0  
GREASE: 16.0

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
10 1/2:1	10.66	.0244 in.-lbs.	—	32	413 rpm	—	47232 lbs.	—
32:1	32	.0138 in.-lbs.	—	12 1/2	285 rpm	—	32621 lbs.	—

**CAUTION!** JACK IS SELF-LOWERING. LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.



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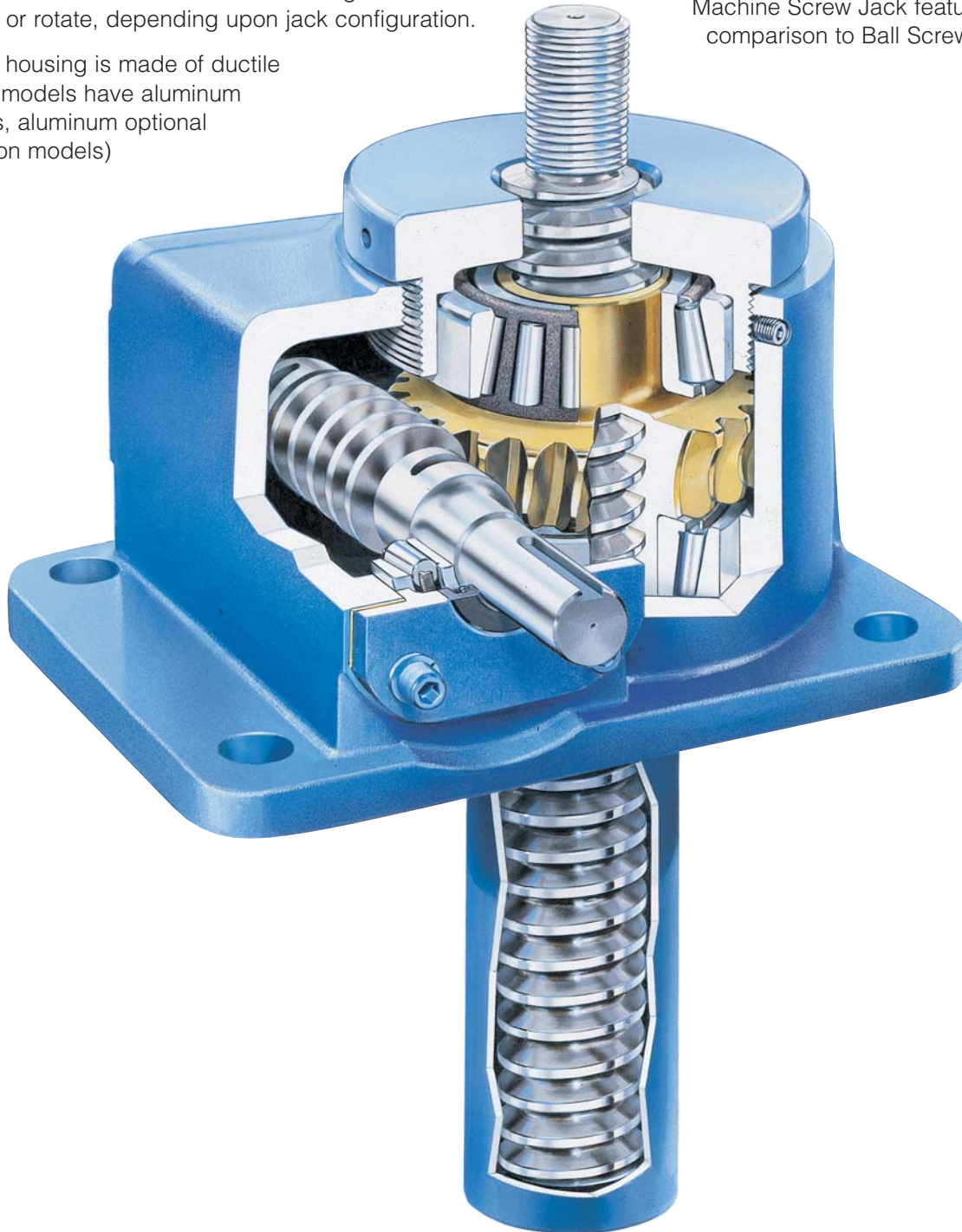
## MACHINE SCREW JACKS

The worm gear driven Machine Screw Jack incorporates an alloy steel worm which drives a high strength bronze worm gear (drive sleeve). The worm shaft is supported on anti-friction tapered roller bearings with external seals provided to prevent loss of lubrication (sealed radial bearings on the 1/2 and 1 ton units). The drive sleeve is supported on anti-friction tapered roller or ball thrust bearings. Rotation of the drive sleeve causes the acme thread lifting screw to translate or rotate, depending upon jack configuration.

The jack housing is made of ductile iron (MJ models have aluminum housings, aluminum optional on one ton models)

and proportioned to support the rated capacity of the unit. The lifting screw is made of alloy steel with a minimum tensile strength of 95,000 psi. The threads are precision formed, typically using Class 2-C (Centralizing) tolerances. Jack lift shaft lead tolerance is approximately  $\pm 0.004$ " per foot.

See the technical introduction at the beginning of this section for additional Machine Screw Jack features and comparison to Ball Screw Jacks.





JACK SIZES					JACK SELECTION									Page Ref
MODEL	Capacity (tons)	Lifting Screw Dia. (in)	Screw Lead (in)	Root Dia. (in)	Gear Ratio	Turns of Worm for 1" Travel	Maximum Input Torque (in.-lb.)	Maximum Allowable Input (hp)	Maximum Worm Speed at Rated Load	Maximum Load at 1750 RPM	Torque to Raise 1 lb. (in.-lb.)	Tare Drag Torque (in.-lb.)		
<b>MJ-20</b>	.5	1/2	.250	.332	5:1	20	19	1/3	1090	631	.019	—	319	
<b>MJ-25</b>	.5	5/8	.200	.377	5:1	25	21	1/3	1040	571	.021	—	319	
<b>MJ-40</b>	.5	5/8	.125	.457	5:1	40	17	1/3	1260	706	.017	—	319	
<b>MJ-50</b>	.5	1/2	.100	.359	5:1	50	14	1/3	1560	857	.014	—	319	
<b>MJ-80</b>	.5	1/2	.250	.332	20:1	80	8	1/6	1310	750	.008	—	319	
<b>MJ-100</b>	.5	5/8	.200	.377	20:1	100	9	1/6	1210	667	.009	—	319	
<b>MJ-160</b>	.5	5/8	.125	.457	20:1	160	7	1/6	1500	857	.007	—	319	
<b>MJ-200</b>	.5	1/2	.100	.359	20:1	200	6	1/6	1800	1000	.006	—	319	
<b>1-MSJ</b>	1	3/4	.200	.502	5:1	25	45	1/2	700	800	.0225	3	320	
					20:1	100	21	1/4	750	857	.0105	3	320	
<b>2-MSJ</b>	2	1	.250	.698	6:1	24	100	2	1260	2881	.0250	4	321	
					12:1	48	62	1 1/2	1525	3456	.0154	4	321	
					24:1	96	42	1/2	750	1715	.0105	4	321	
<b>2R-MSJ</b>	2	1	.250	.698	6:1	24	100	2	1260	2881	.0250	4	322	
					12:1	48	62	1 1/2	1525	3486	.0154	4	322	
					24:1	96	42	1/2	750	1715	.0105	4	322	
<b>2.5-MSJ</b>	2 1/2	1	.250	.698	6:1	24	126	2	1000	2858	.0252	5	323	
					12:1	48	74	1 1/2	1277	3650	.0148	5	323	
					24:1	96	53	1/2	594	1699	.0106	5	323	

\* Measurements listed are for non-keyed units. See individual jack pages for keyed jack info.

**NOTES:**

- 1) The recommended maximum speed is 1800 rpm provided that the recommended horsepower and temperature are not exceeded.
- 2) Input torque is shown as torque to lift one pound of load. Starting Torque is 100% greater than torque shown. For loads less than 25% of rated loads add tare drag torque.
- 3) Maximum allowable horsepower ratings are based on a 25% duty cycle. For operation at higher duty cycles or repeated use over any segment of the total travel, temperature must be monitored and remain less than 200°F.
- 4) Overload capacity of the Machine Screw Jack is as follows: 10% for dynamic loads, 30% for static loads.
- 5) Machine Screw Jacks having gear ratios between 20:1 and 32:1, are self-locking and will hold loads without backdriving in the absence of vibrations. All other ratios may require a brake to prevent backdriving.
- 6) All units are suitable for intermittent operation providing that the housing temperature including ambient is not lower than -20°F. or higher than +200°F. Factory supplied grease in standard units will operate in this range. For higher or lower operating temperature ranges consult Nook Industries, Inc.
- 7) Accessories such as boots, limit switches, top plates and clevises are available.



JACK SIZES					JACK SELECTION								
MODEL	Capacity (tons)	Lifting Screw Dia. (in)	Screw Lead (in)	Root Dia. (in)	Gear Ratio	Turns of Worm for 1" Travel	Maximum Input Torque (in.-lb.)	Maximum Allowable Input (hp)	Maximum Worm Speed at Rated Load	Maximum Load at 1750 RPM	Torque to Raise 1 lb. (in.-lb.)	Tare Drag Torque (in.-lb.)	Page Ref
5-MSJ	5	1 1/2	.375	1.066	6:1	16	376	3	500	2873	.0376	10	324
					24:1	64	144	3/4	330	1875	.0144	10	324
10-MSJ	10	2	.500	1.410	8:1	16	753	5	418	4766	.0377	20	325
					24:1	48	384	1 1/2	246	2813	.0192	20	325
15-MSJ	15	2 1/4	.500	1.684	8:1	16	1221	5	258	4424	.0407	20/29	326
					24:1	48	654	1 1/2	144	2478	.0218	20/29	326
20-MSJ	20	2 1/2	.500	1.908	8:1	16	1740	7 1/2	272	6209	.0435	40	327
					24:1	48	873	2 1/2	180	4130	.0218	40	327
30-MSJ	30	3 3/8	.667	2.652	10 2/3:1	16	2710	11	256	8764	.0452	50	328
					32:1	48	1411	3 1/2	156	5364	.0235	50	328
35-MSJ	35	3 3/4	.667	3.009	10 2/3:1	16	3450	11	200	8035	.0493	50	329
					32:1	48	1800	3 1/2	122	4904	.0257	50	329
50-MSJ	50	4 1/2	.667	3.782	10 2/3:1	16	5555	16	181	10382	.0555	100	330
					32:1	48	3014	5	104	5982	.0301	100	330
75-MSJ	75	5	.667	4.286	10 2/3:1	16	8236	28	214	18368	.0549	155	331
					32:1	48	3780	9	150	12862	.0252	155	331
100-MSJ	100	6	.667	5.254	10 2/3:1	16	13166	32	153	17330	.0665	205	332
					32:1	48	7460	12 1/2	106	11941	.0377	205	332

\* Measurements listed are for non-keyed units. See individual jack pages for keyed jack info.

**NOTES:**

8) Catalog dimensions are representative only and are subject to change without notice. For construction, use only certified prints.

9) Units are not to be used as personnel support or movement.

10) End-of-travel stops are not provided.

$$\text{Horsepower per jack} = \frac{\text{Torque to raise one pound} \times \text{Number of pounds to be raised} \times \text{rpm}}{63,025}$$

\* Tare drag torque need only be added if operating under 25% rated load.

Starting Torque is 100% greater than torque shown.

Column strength is the ability of the lift shaft to hold compressive loads without buckling. With longer screw lengths, column strength may be substantially lower than nominal jack capacity.

If the lift shaft is in tension only, the screw jack travel is limited by the available screw material or by the critical speed of the screw. Refer to the acme screw technical section for critical speed limitations. If there is any possibility for the lift shaft to go into compression, the application should be sized for sufficient column strength.

The chart below is used to determine the required jack size in applications where the lift shaft is loaded in compression.

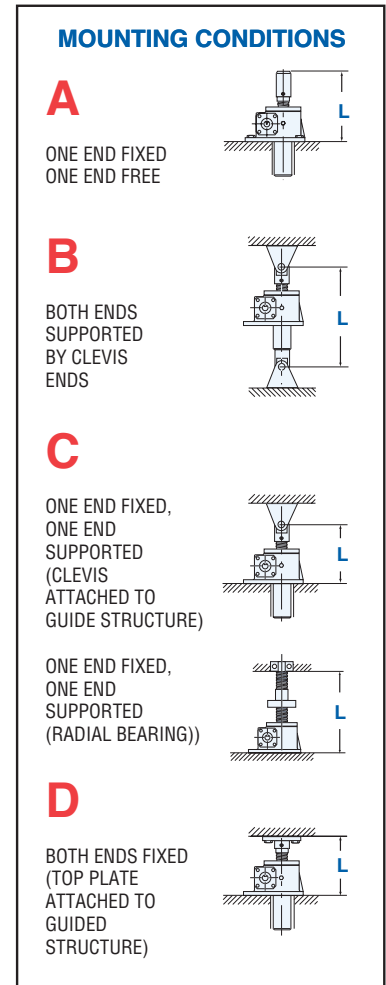
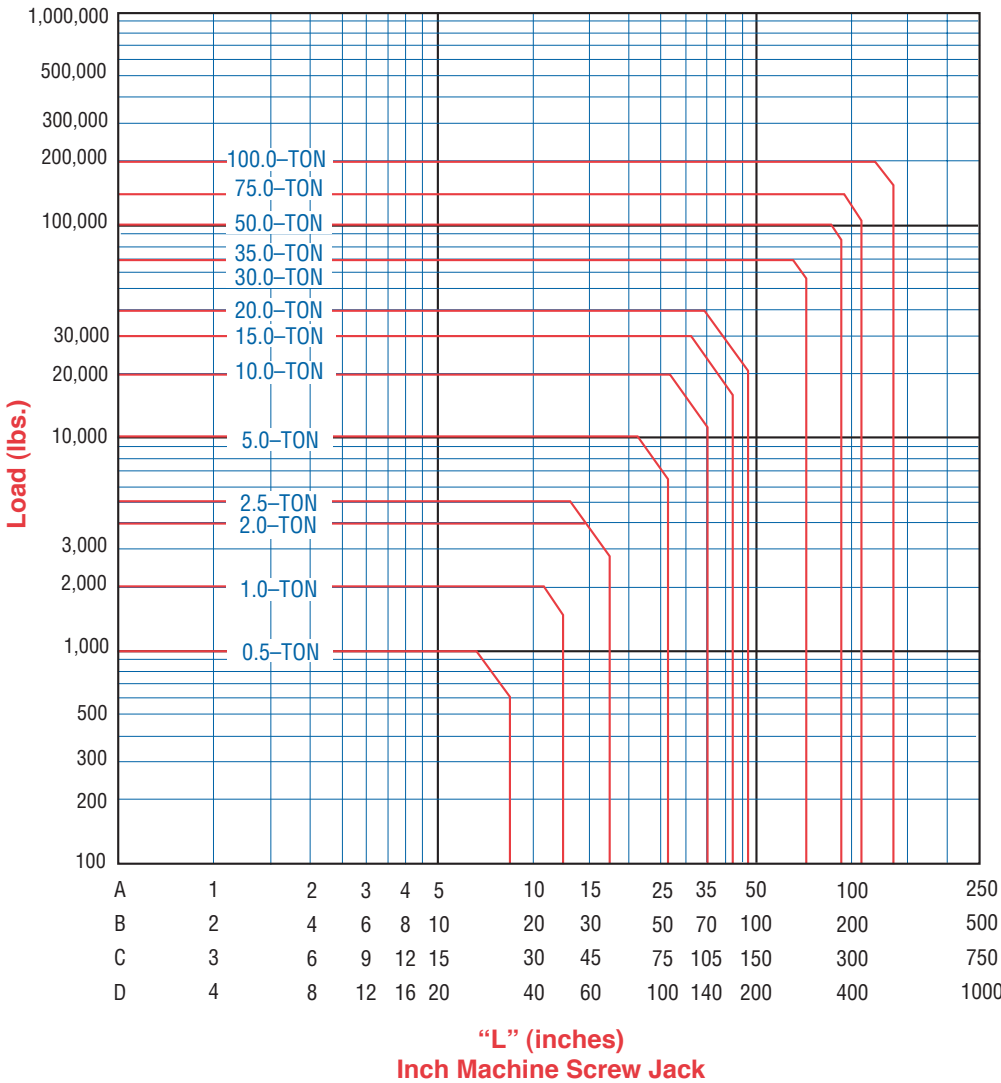
To use this chart:

Find a point at which the maximum length "L" intersects the maximum load. Be sure the jack selected is above and to the right of that point.

**CAUTION:** chart does not include a design factor.

The chart assumes proper jack alignment with no bending loads on the screw. Effects from side loading are not included in this chart. Jacks operating horizontally with long lift shafts can experience bending from the weight of the screw. Consult Nook Industries. If side thrust is anticipated, operating horizontally, or maximum raise is greater than 30 times the screw diameter.

INCH MACHINE SCREW JACKS TECHNICAL DATA



**AVAILABLE LIFT SCREW LENGTHS**

As a major manufacturer of industrial lead screws, Nook Industries stocks a broad selection of acme screws. Nook Industries has the capacity to make long acme screws for

special applications. Rotating screw jacks can be built with a larger diameter lift screw for greater column strength, or a different lead to change the jack operating speed.



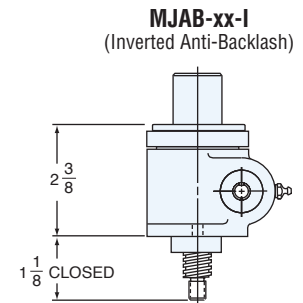
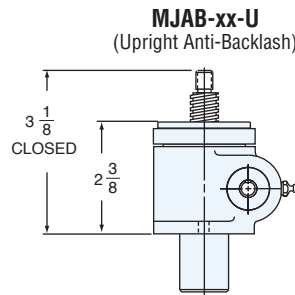
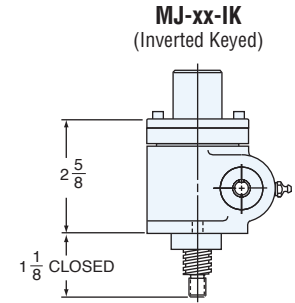
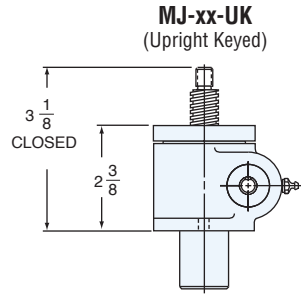
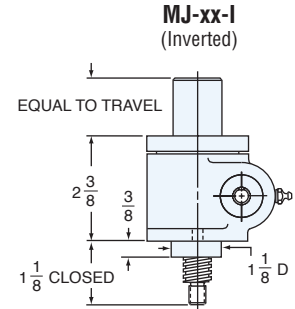
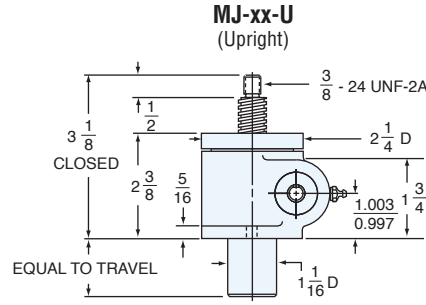
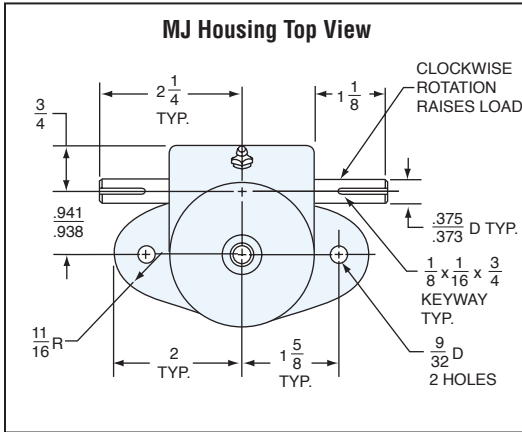


ActionJac™ Anti-backlash Machine Screw Jacks may be ordered with worm gear sets and lift shafts specifically designed to provide 0.01 inch of travel for each revolution of the input shaft. Referred to as “Numeric Ratio” jack, these units are usually manually operated to precisely position machine components such as end stops or calender rolls.

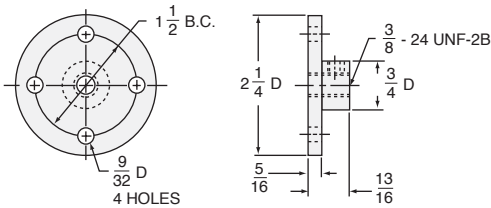
These jacks can be supplied with handwheels and counters (see ActionJac™ accessories section) to provide immediate positional feedback to an operator. ActionJac™ Numeric Ratio Anti-backlash Machine Screw Jacks retain all the performance characteristics of standard machine screw jacks.

## NUMERIC RATIO JACKS

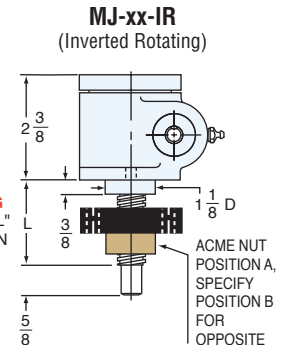
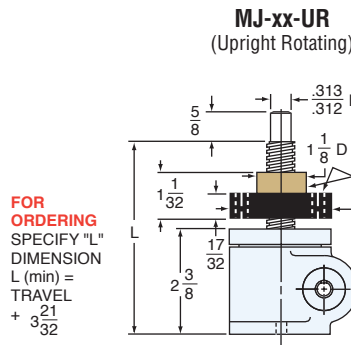
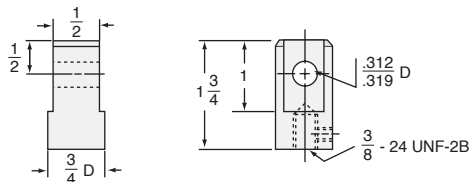
JACK SIZES					JACK SELECTION									Page Ref
MODEL	Capacity (lbs.)	Lifting Screw Dia. (in)	Screw Lead (in)	Root Dia. (in)	Gear Ratio	Turns of Worm for 1" Travel	Maximum Input Torque (in.-lb.)	Maximum Allowable Input (hp)	Maximum Worm Speed at Rated Load	Maximum Load at 1750 RPM	Torque to Raise 1 lb. (in.-lb.)	Tare Drag Torque (in.-lb.)		
MJAB-100	1,000	0.625	0.200	0.377	20:1	100	8.7	0.17	1210	690	0.009	1.0	319	
1AB-MSJ	2,000	0.750	0.200	0.502	20:1	100	21	0.26	750	855	0.011	3.0	320	
2AB-MSJ	4,000	1.000	0.250	0.698	25:1	100	41	0.51	780	1780	0.010	4.0	321	
2.5AB-MSJ	5,000	1.000	0.250	0.698	25:1	100	51	0.51	625	1785	0.010	5.0	323	
5AB-MSJ	10,000	1.500	0.250	1.196	25:1	100	116	0.67	365	2085	0.012	10.0	324	
10AB-MSJ	20,000	2.000	0.250	1.694	25:1	100	309	1.38	282	3225	0.015	20.0	325	
15AB-MSJ	30,000	2.250	0.250	1.944	25:1	100	505	1.33	165	2835	0.017	20.0	326	
20AB-MSJ	40,000	2.500	0.250	2.193	25:1	100	712	2.32	205	4690	0.018	40.0	327	



**TOP PLATE (optional): B9000-00-12**



**CLEVIS END (optional): B9001-00-12**



MODEL NO.	GEAR RATIO	TURNS OF WORM PER INCH TRAVEL	*RATING AT 1750 rpm INPUT SPEED		MAX. HP	TORQUE TO RAISE 1 LB. (in.-lb.)		SCREW SIZE	TORQUE AT 1000 LB. LOAD (in.-lb.)	MAX. rpm AT 1000 lb. LOAD		**COMPRESSION LOADING MAX TRAVEL	
			LOAD (lbs.)	LIFT RATE (in./min.)		NON-KEYED	KEYED			NON-KEYED	KEYED	at 1000 lb.	at ANY LOAD
MJ-20	5:1	20	600	90.0	1/3	.019	.022	1/2-4	19.3	1090	950	7.2	8.75
MJ-25	5:1	25	560	72.0	1/3	.021	.024	5/8-5	20.7	1040	900	8.3	9.38
MJ-40	5:1	40	700	45.0	1/3	.017	.020	5/8-8	16.7	1260	1100	11.88	11.88
MJ-50	5:1	50	860	36.0	1/3	.014	.016	1/2-10	13.5	1560	1350	8.3	9.38
MJ-80	20:1	80	720	22.5	1/6	.008	.009	1/2-4	8.0	1310	1140	7.2	8.75
MJ-100	20:1	100	670	18.0	1/6	.009	.010	5/8-5	8.7	1210	1050	8.3	9.38
MJ-160	20:1	160	830	11.2	1/6	.007	.008	5/8-8	7.0	1500	1300	11.88	11.88
MJ-200	20:1	200	1000	9.0	1/6	.006	.007	1/2-10	5.7	1800	1560	8.3	9.38

**MJ STANDARD**

WEIGHT (Approx. in Pounds)

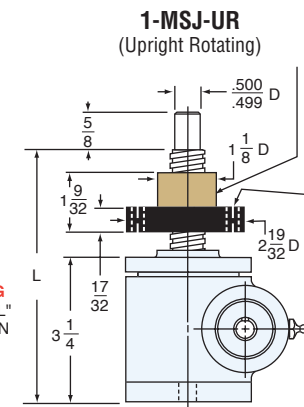
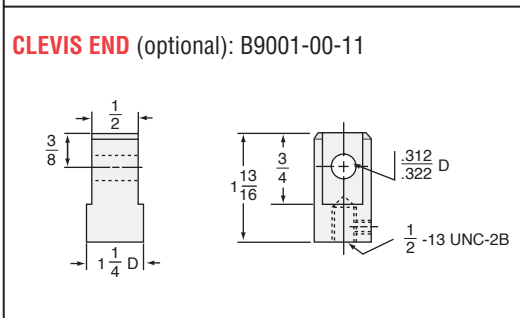
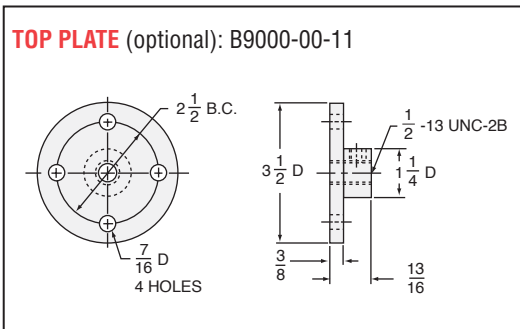
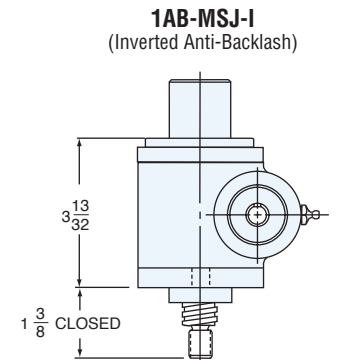
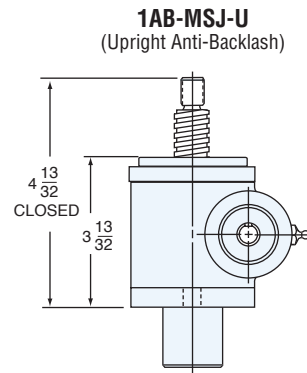
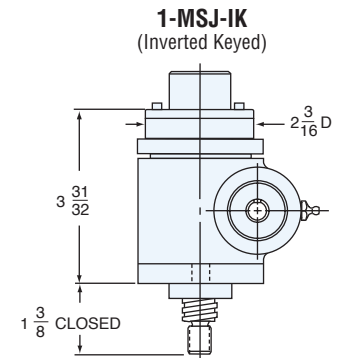
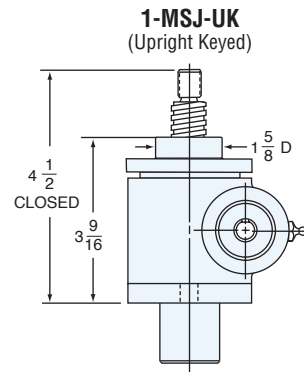
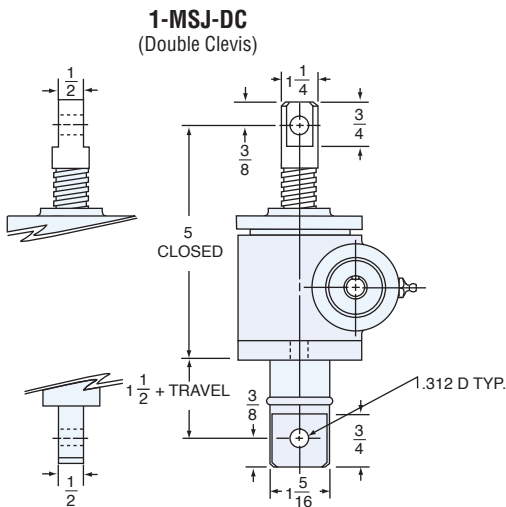
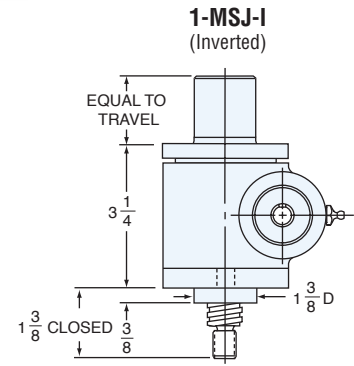
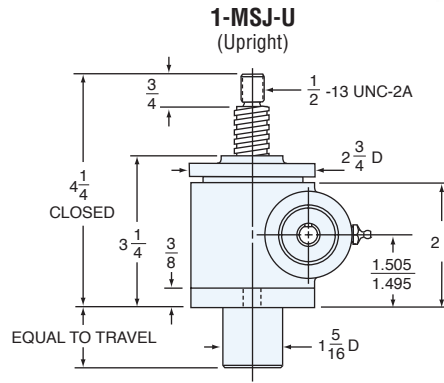
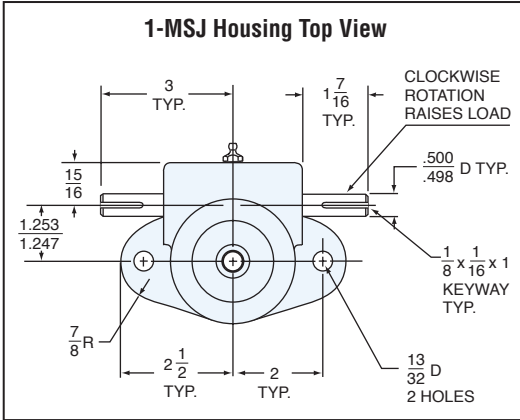
- "0" TRAVEL: 2.5
- PER INCH TRAVEL: 0.2
- GREASE: 0.5

\* Load may be increased to a maximum of 1000 lbs. if the input speed is correspondingly reduced such that the maximum allowable hp is not exceeded.

\*\* Travel is based on one end fixed and the other end free. For both ends supported multiply by 2, for one end fixed, the other end supported multiply by 3, for both ends fixed multiply by 4. See page 316 for mounting conditions.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.

**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.

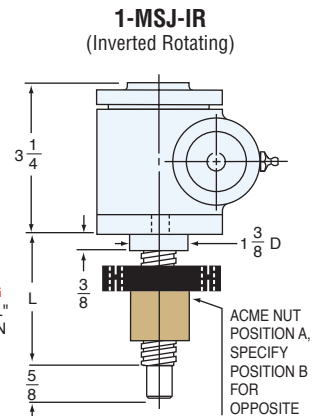


ACME NUT POSITION A, SPECIFY POSITION B FOR OPPOSITE

17/64 D

4 HOLES ON 2.094 B.C.

FOR ORDERING SPECIFY "L" DIMENSION L (min) = TRAVEL + 5/32

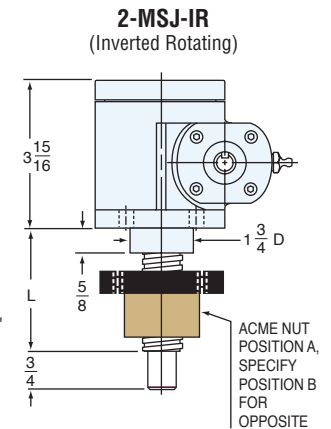
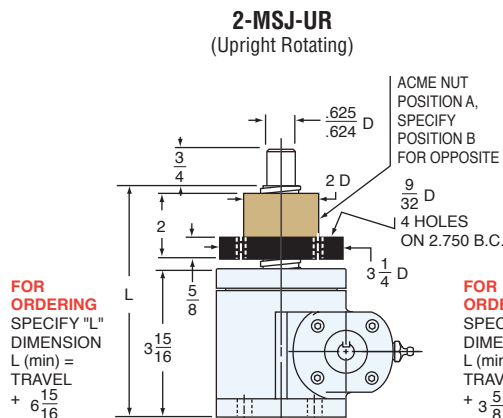
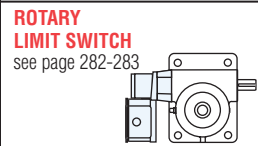
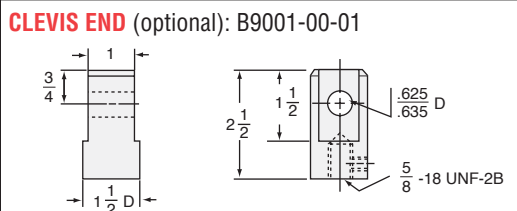
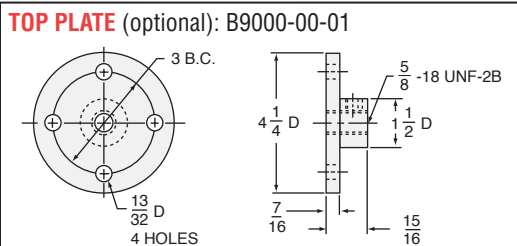
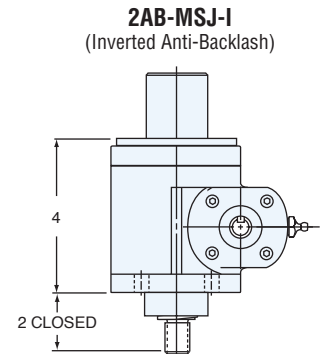
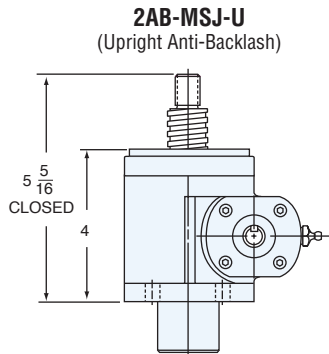
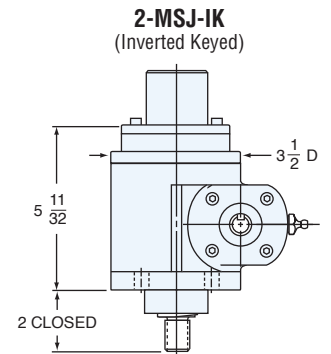
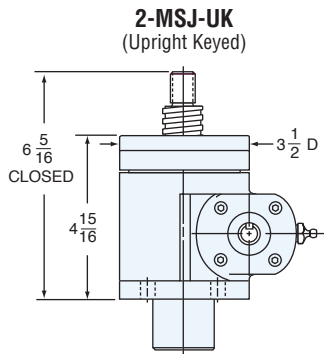
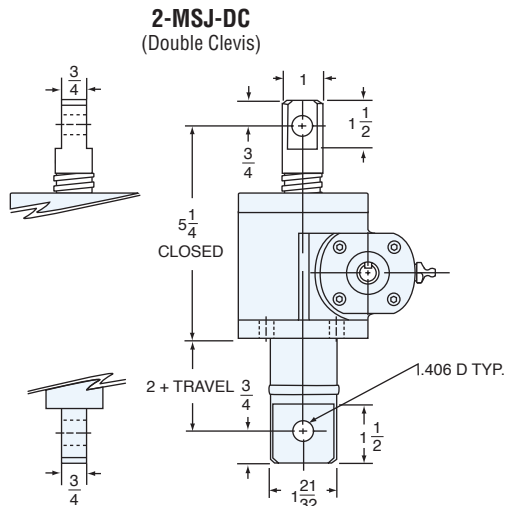
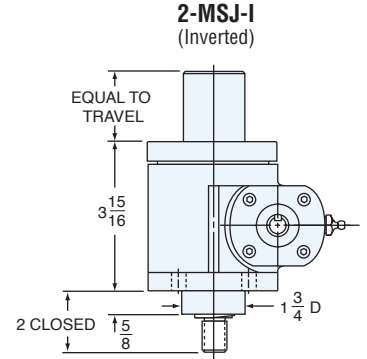
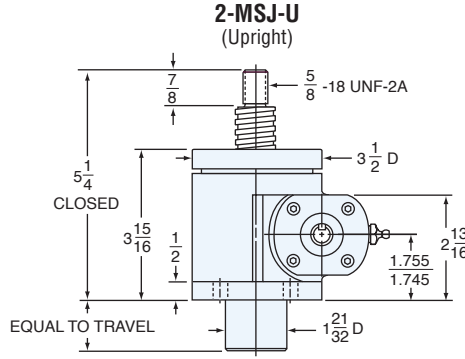
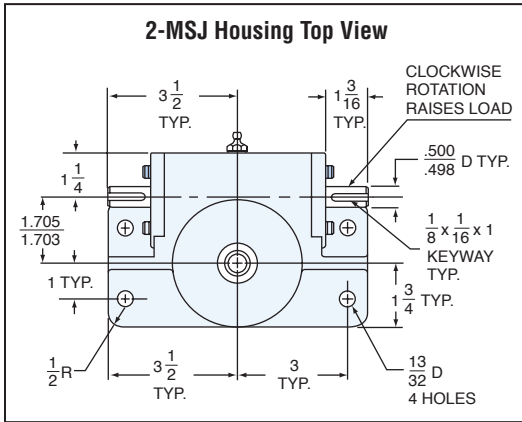


**1-MSJ STANDARD SCREW**

SCREW: 3/4 - 5  
 ROOT DIAMETER: 0.502  
 DRAG TORQUE: 3 IN.-LB.  
 START TORQUE: 2 x Running Torque  
 WEIGHT (Approx. in Pounds)  
 "0" TRAVEL: 5.5  
 PER INCH TRAVEL: 0.3  
 GREASE: 0.5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
5:1	25	.0225 in.-lbs.	.0259 in.-lbs.	1/2	700 rpm	608 rpm	800 lbs.	695 lbs.
20:1	100	.0105 in.-lbs.	.0121 in.-lbs.	1/4	750 rpm	651 rpm	857 lbs.	744 lbs.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



**2-MSJ STANDARD SCREW**

SCREW: 1 - 4

ROOT DIAMETER: 0.698

DRAG TORQUE: 4 IN.-LB.

START TORQUE: 2 x Running Torque

WEIGHT (Approx. in Pounds)

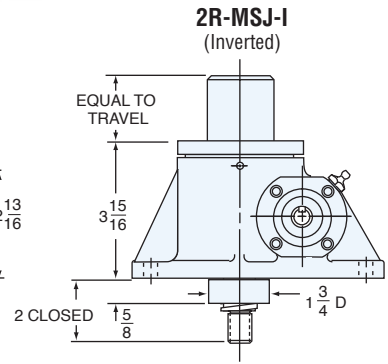
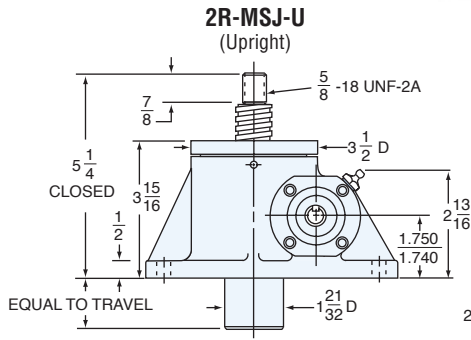
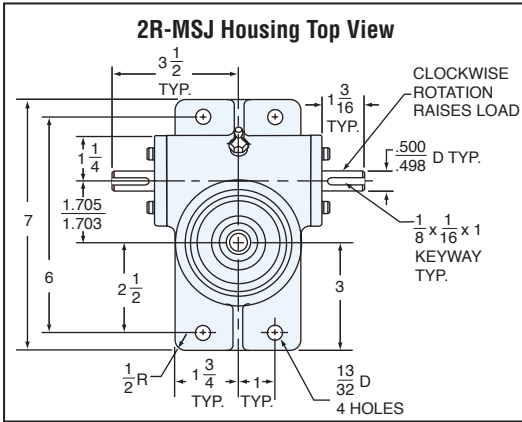
"0" TRAVEL: 15.0

PER INCH TRAVEL: 0.45

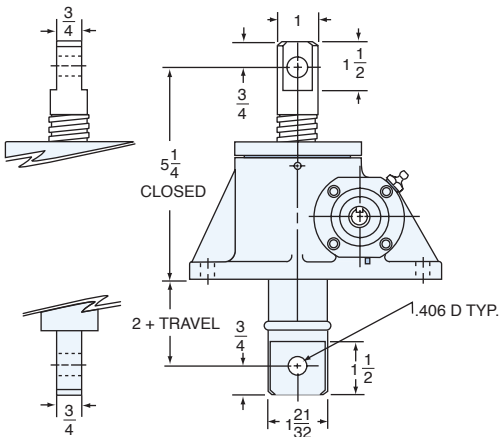
GREASE: 0.5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
6:1	24	.0250 in.-lbs.	.0288 in.-lbs.	2	1260 rpm	1096 rpm	2881 lbs.	2505 lbs.
12:1	48	.0154 in.-lbs.	.0177 in.-lbs.	1 1/2	1525 rpm	1326 rpm	3486 lbs.	3031 lbs.
24:1	96	.0105 in.-lbs.	.0121 in.-lbs.	1/2	750 rpm	651 rpm	1715 lbs.	1488 lbs.

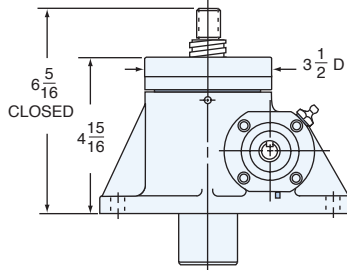
LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



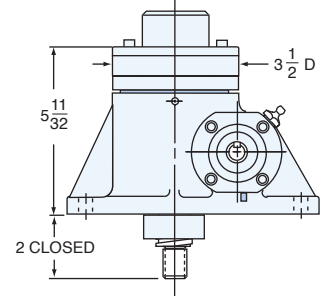
**2R-MSJ-DC**  
(Double Clevis)



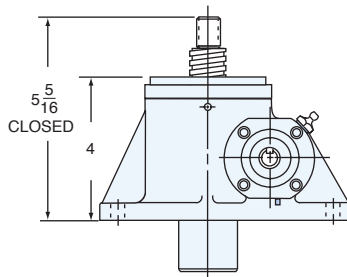
**2R-MSJ-UK**  
(Upright Keyed)



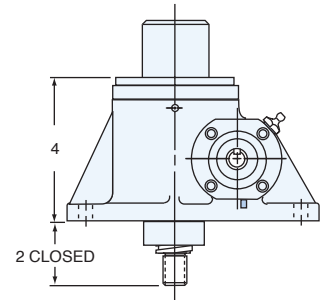
**2R-MSJ-IK**  
(Inverted Keyed)



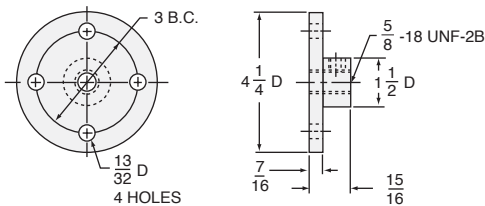
**2RAB-MSJ-U**  
(Upright Anti-Backlash)



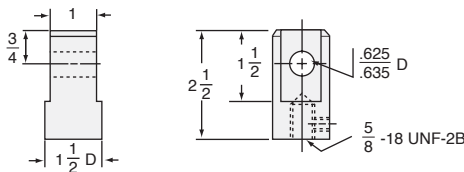
**2RAB-MSJ-I**  
(Inverted Anti-Backlash)



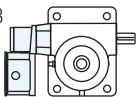
**TOP PLATE (optional): B9000-00-01**



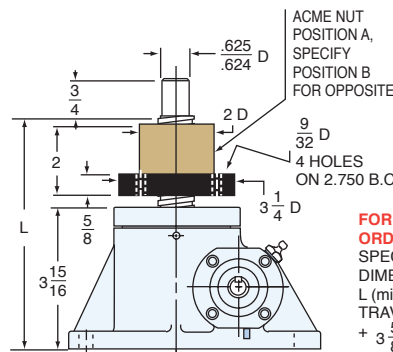
**CLEVIS END (optional): B9001-00-01**



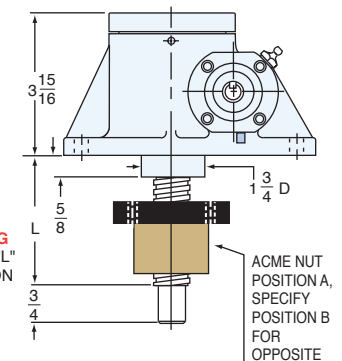
**ROTARY  
LIMIT SWITCH**  
see page 282-283



**2R-MSJ-UR**  
(Upright Rotating)



**2R-MSJ-IR**  
(Inverted Rotating)



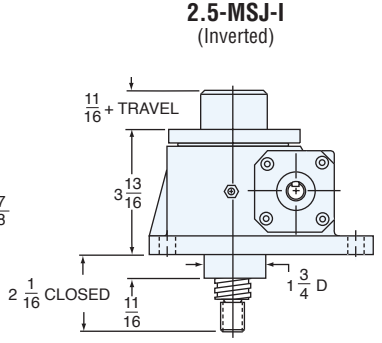
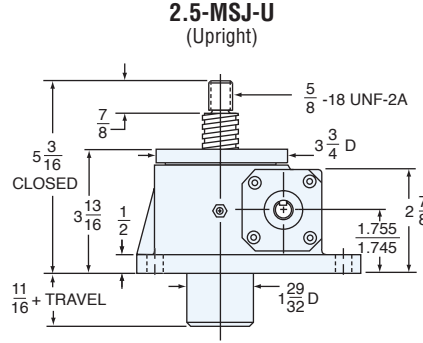
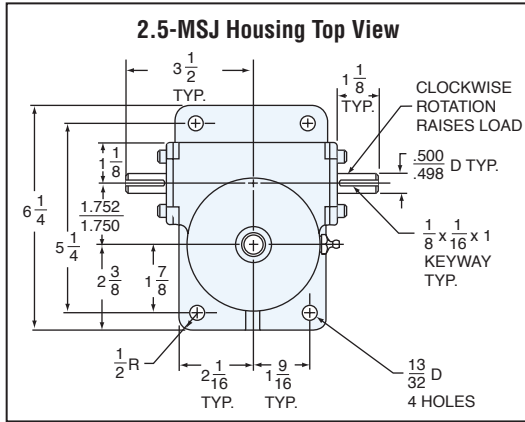
**2R-MSJ STANDARD SCREW**

SCREW: 1 - 4  
 ROOT DIAMETER: 0.698  
 DRAG TORQUE: 4 IN.-LB.  
 START TORQUE: 2 x Running Torque  
 WEIGHT (Approx. in Pounds)  
 "0" TRAVEL: 15.0  
 PER INCH TRAVEL: 0.45  
 GREASE: 0.5

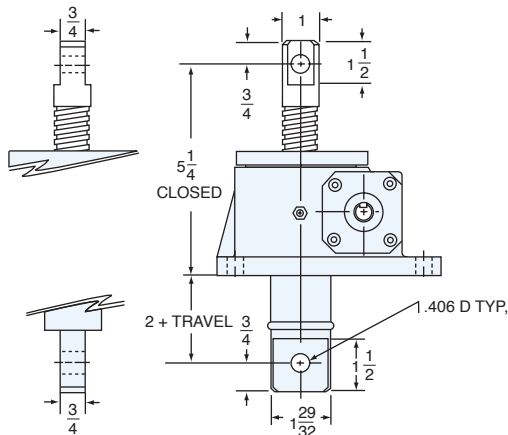
RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
6:1	24	.0250 in.-lbs.	.0288 in.-lbs.	2	1260 rpm	1096 rpm	2881 lbs.	2505 lbs.
12:1	48	.0154 in.-lbs.	.0177 in.-lbs.	1 1/2	1525 rpm	1326 rpm	3486 lbs.	3031 lbs.
24:1	96	.0105 in.-lbs.	.0121 in.-lbs.	1/2	750 rpm	651 rpm	1715 lbs.	1488 lbs.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.

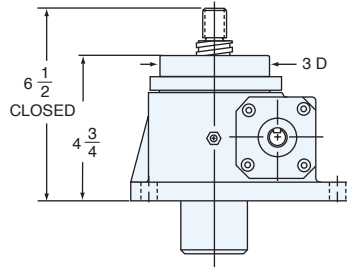




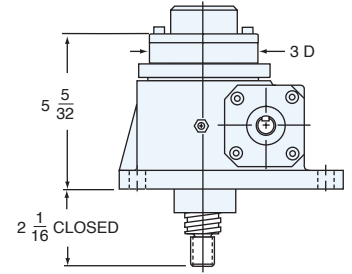
**2.5-MSJ-DC (Double Clevis)**



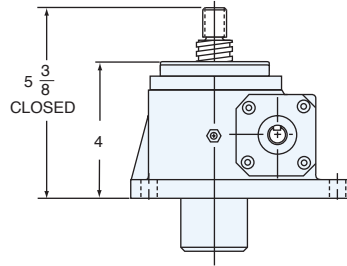
**2.5-MSJ-UK (Upright Keyed)**



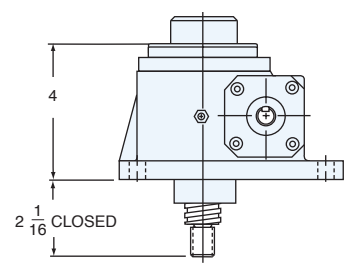
**2.5-MSJ-IK (Inverted Keyed)**



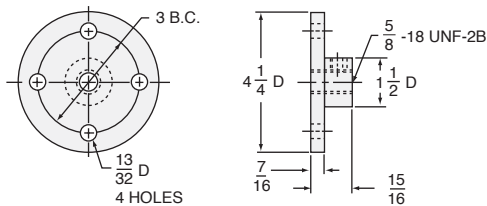
**2.5AB-MSJ-U (Upright Anti-Backlash)**



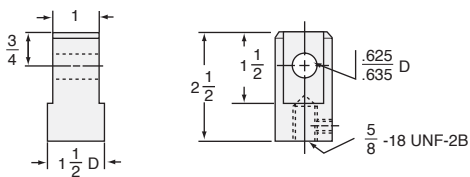
**2.5AB-MSJ-I (Inverted Anti-Backlash)**



**TOP PLATE (optional): B9000-00-01**

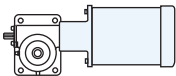


**CLEVIS END (optional): B9001-00-01**

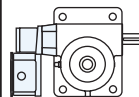


**MOTORS**  
see page 276

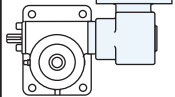
**MOTOR MOUNTS**  
see page 275



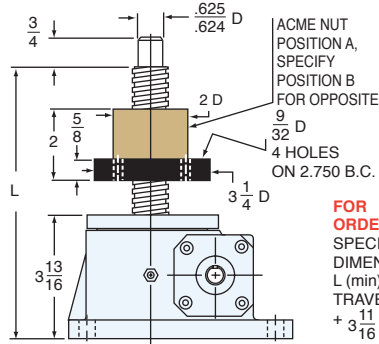
**ROTARY LIMIT SWITCH**  
see page 282-283



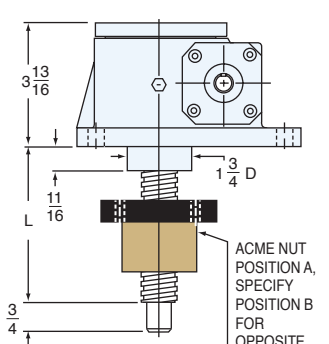
**SECONDARY REDUCER**  
see page 278-279



**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL  
 $\frac{13}{16}$  +  $\frac{6}{16}$



**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL  
 $\frac{11}{16}$  +  $\frac{3}{16}$

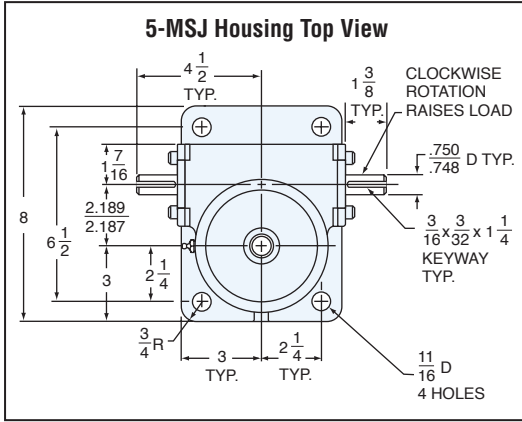


**2.5-MSJ STANDARD SCREW**

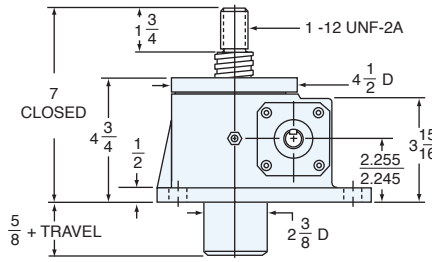
SCREW: 1 - 4  
ROOT DIAMETER: 0.698  
DRAG TORQUE: 5 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"0" TRAVEL: 17.0  
PER INCH TRAVEL: 0.45  
GREASE: 0.5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
6:1	24	.0252 in.-lbs.	.0290 in.-lbs.	2	1000 rpm	869 rpm	2858 lbs.	2483 lbs.
12:1	48	.0148 in.-lbs.	.0170 in.-lbs.	1 1/2	1277 rpm	1110 rpm	3650 lbs.	3174 lbs.
24:1	96	.0106 in.-lbs.	.0122 in.-lbs.	1/2	594 rpm	516 rpm	1699 lbs.	1476 lbs.

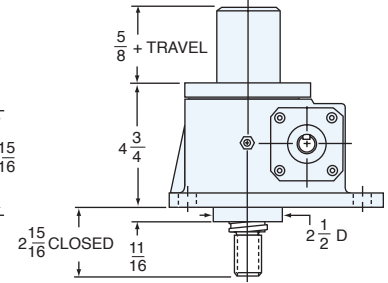
LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



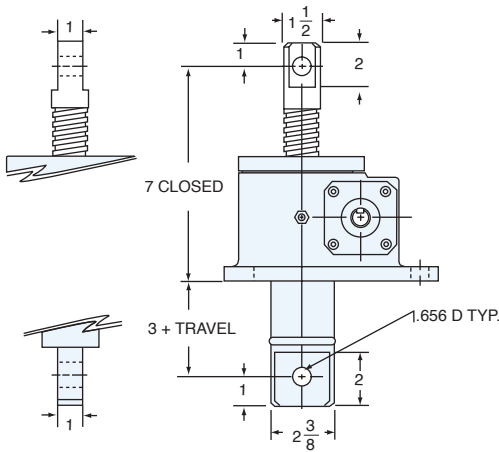
**5-MSJ-U**  
(Upright)



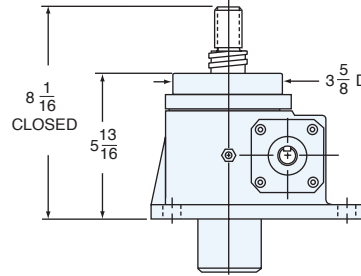
**5-MSJ-I**  
(Inverted)



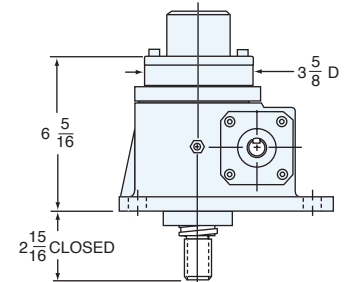
**5-MSJ-DC**  
(Double Clevis)



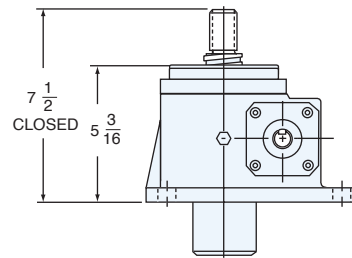
**5-MSJ-UK**  
(Upright Keyed)



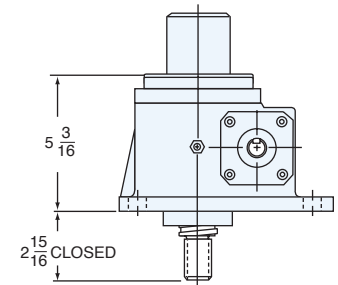
**5-MSJ-IK**  
(Inverted Keyed)



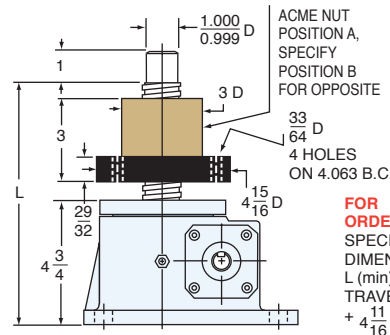
**5AB-MSJ-U**  
(Upright Anti-Backlash)



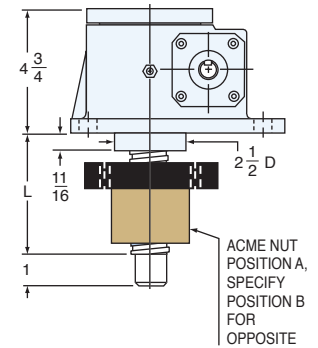
**5AB-MSJ-I**  
(Inverted Anti-Backlash)



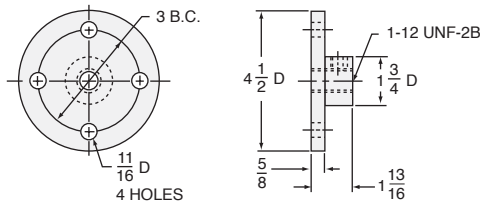
**5-MSJ-UR**  
(Upright Rotating)



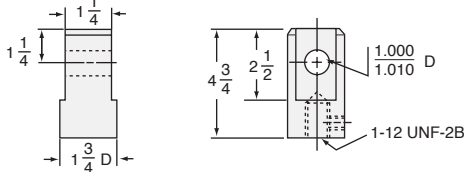
**5-MSJ-IR**  
(Inverted Rotating)



**TOP PLATE (optional): B9000-00-02**



**CLEVIS END (optional): B9001-00-02**

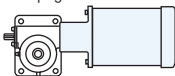


**MOTORS**

see page 276

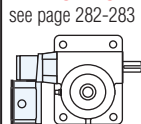
**MOTOR MOUNTS**

see page 275



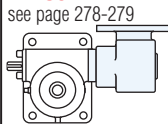
**ROTARY LIMIT SWITCH**

see page 282-283



**SECONDARY REDUCER**

see page 278-279

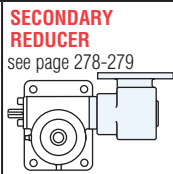
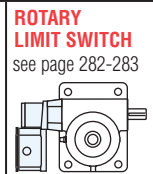
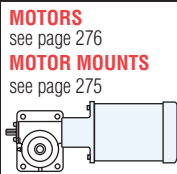
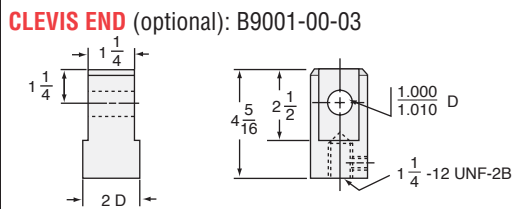
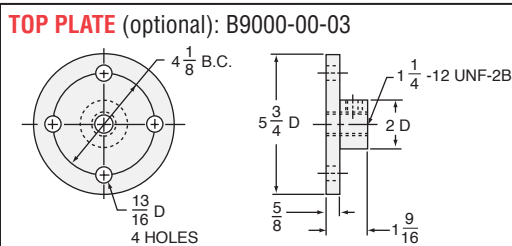
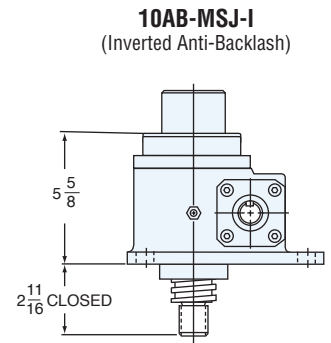
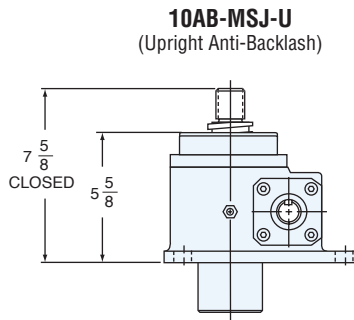
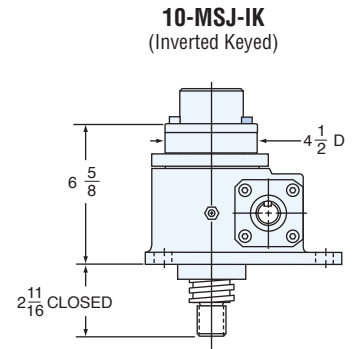
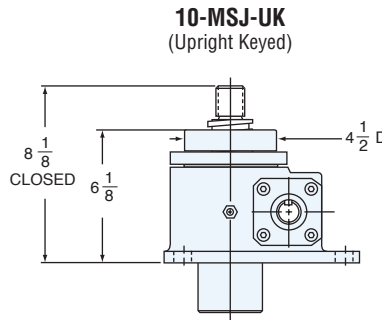
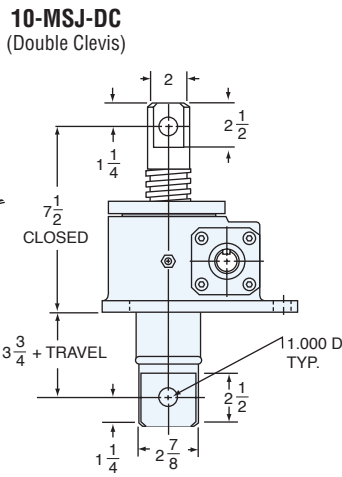
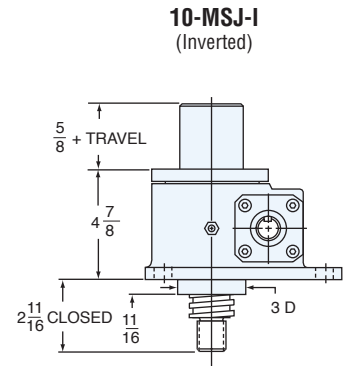
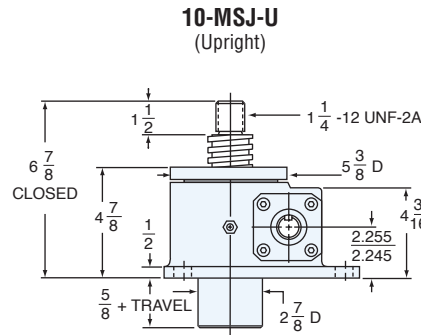
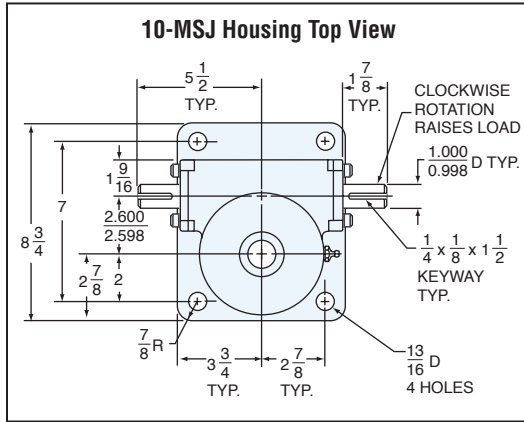


**5-MSJ STANDARD SCREW**

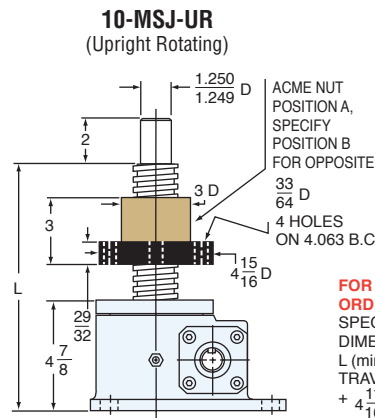
**SCREW:** 1 1/2 - 2 2/3  
**ROOT DIAMETER:** 1.066  
**DRAG TORQUE:** 10 IN.-LB.  
**START TORQUE:** 2 x Running Torque  
**WEIGHT (Approx. in Pounds)**  
**"0" TRAVEL:** 30.0  
**PER INCH TRAVEL:** 0.7  
**GREASE:** 1.0

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
6:1	16	.0376 in.-lbs.	.0432 in.-lbs.	3	500 rpm	437 rpm	2873 lbs.	2501 lbs.
24:1	64	.0144 in.-lbs.	.0166 in.-lbs.	3/4	330 rpm	287 rpm	1875 lbs.	1627 lbs.

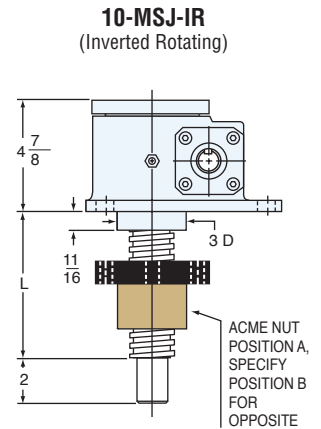
LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 8 7/8



**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 11 4/16

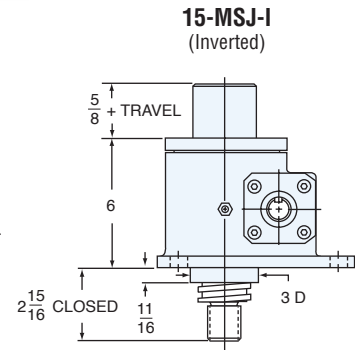
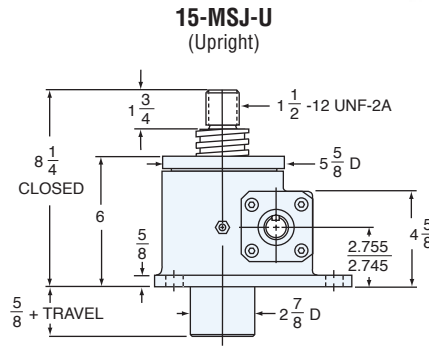
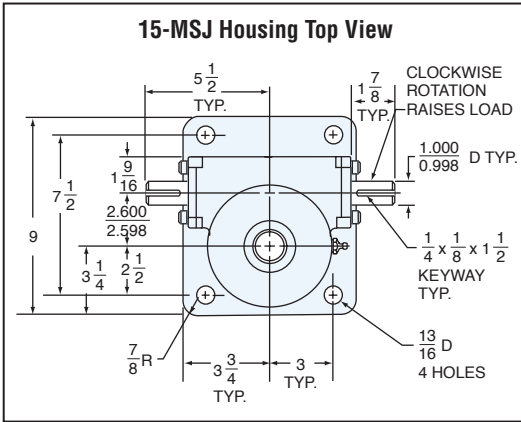


**10-MSJ STANDARD SCREW**

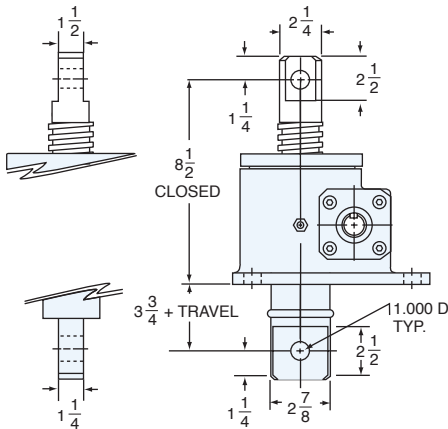
SCREW: 2 - 2  
ROOT DIAMETER: 1.410  
DRAG TORQUE: 20 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"0" TRAVEL: 45.0  
PER INCH TRAVEL: 1.2  
GREASE: 1.5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
8:1	16	.0377 in.-lbs.	.0434 in.-lbs.	5	418 rpm	363 rpm	4776 lbs.	4149 lbs.
24:1	48	.0192 in.-lbs.	.0221 in.-lbs.	1 1/2	246 rpm	214 rpm	2813 lbs.	2444 lbs.

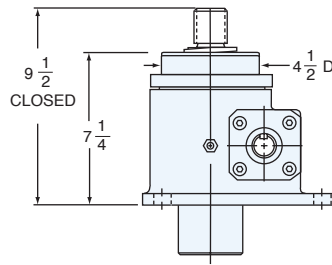
LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



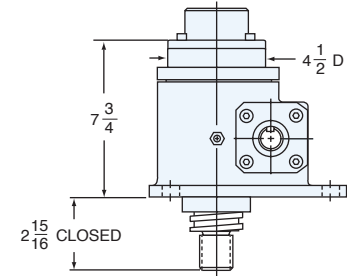
**15-MSJ-DC (Double Clevis)**



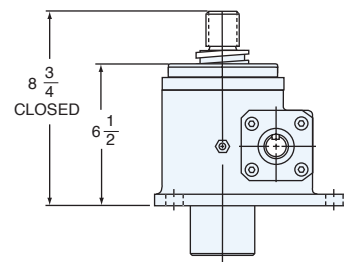
**15-MSJ-UK (Upright Keyed)**



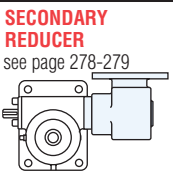
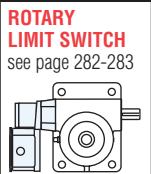
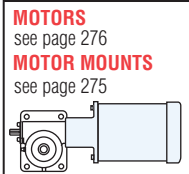
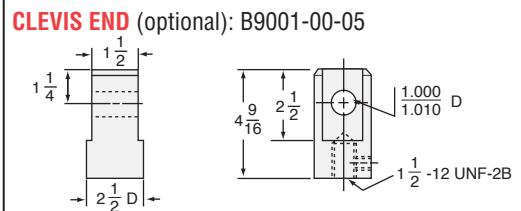
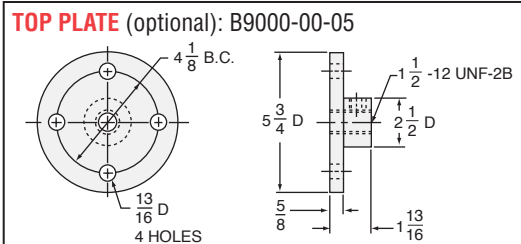
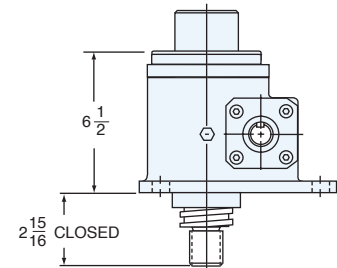
**15-MSJ-IK (Inverted Keyed)**



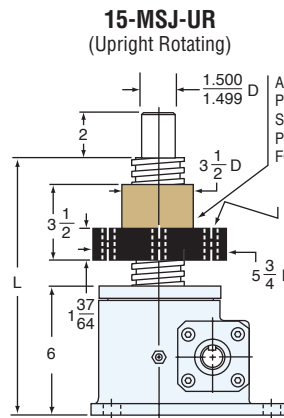
**15AB-MSJ-U (Upright Anti-Backlash)**



**15AB-MSJ-I (Inverted Anti-Backlash)**



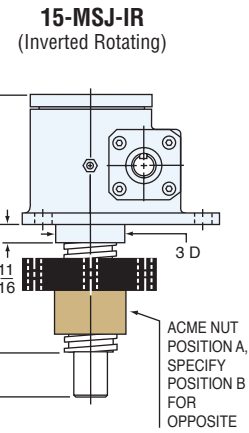
**FOR ORDERING SPECIFY "L" DIMENSION**  
L (min) = TRAVEL + 10 1/2



ACME NUT POSITION A, SPECIFY POSITION B FOR OPPOSITE

41 64 D  
6 HOLES ON 4.625 B.C.

**FOR ORDERING SPECIFY "L" DIMENSION**  
L (min) = TRAVEL + 5 3/16

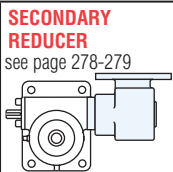
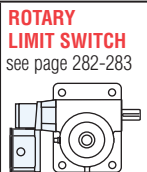
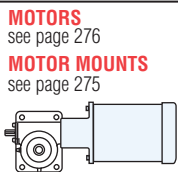
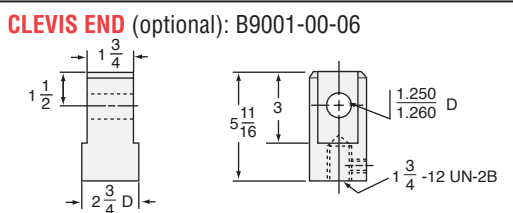
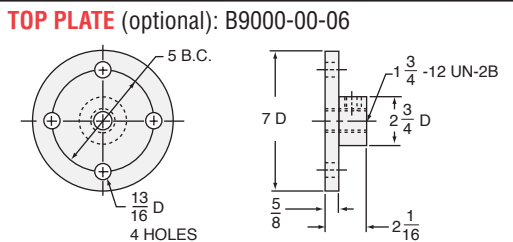
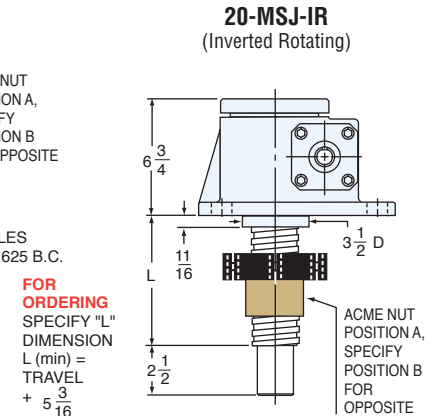
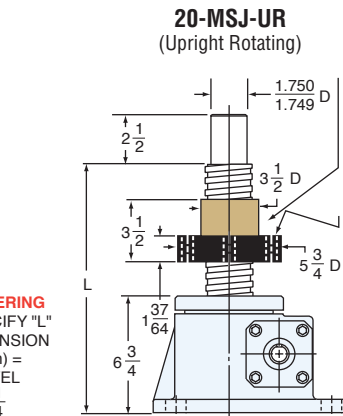
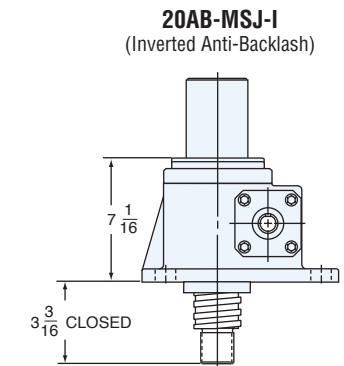
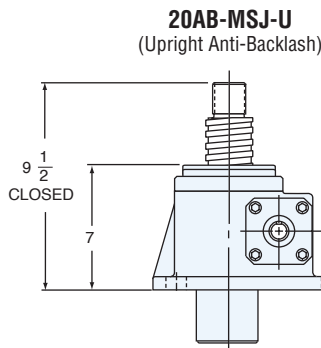
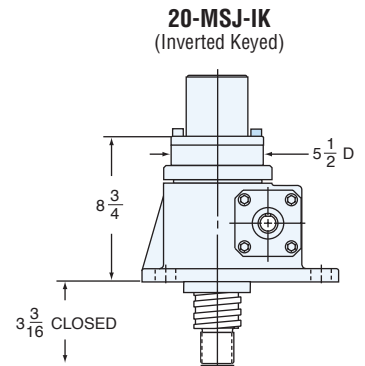
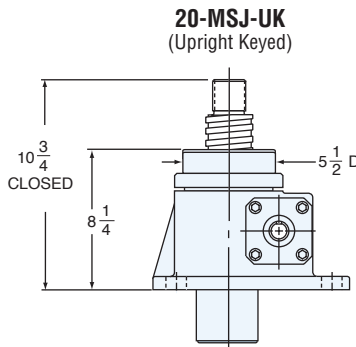
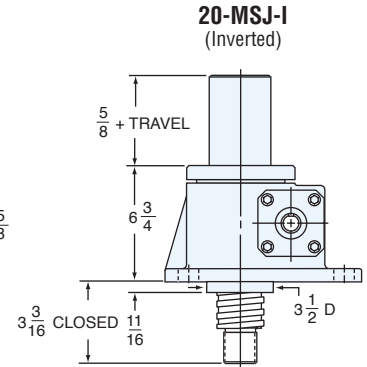
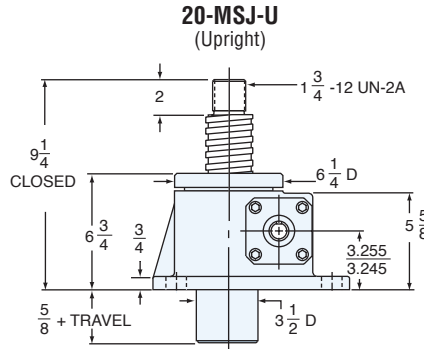
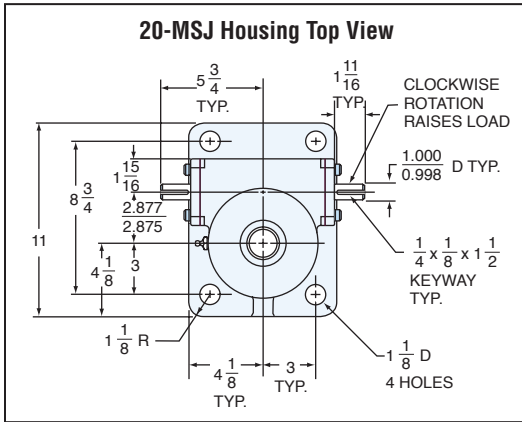


**15-MSJ STANDARD SCREW**

**SCREW:** 2 1/4 - 2  
**ROOT DIAMETER:** 1.684  
**DRAG TORQUE:** 20 IN.-LB.  
**START TORQUE:** 2 x Running Torque  
**WEIGHT (Approx. in Pounds)**  
"0" TRAVEL: 55.0  
PER INCH TRAVEL: 1.4  
GREASE: 1.5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
8:1	16	.0407 in.-lbs.	.0468 in.-lbs.	5	258 rpm	224 rpm	4424 lbs.	3847 lbs.
24:1	48	.0218 in.-lbs.	.0251 in.-lbs.	1 1/2	144 rpm	125 rpm	2478 lbs.	2152 lbs.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL  
+  $11\frac{1}{4}$

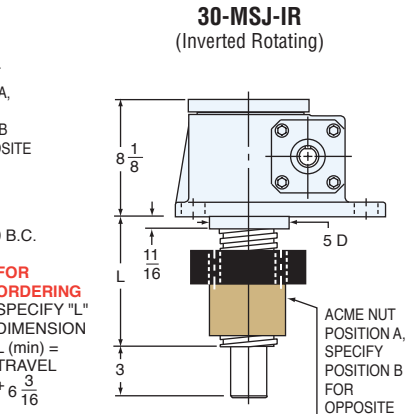
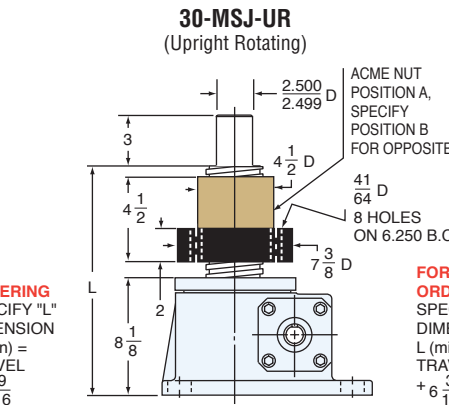
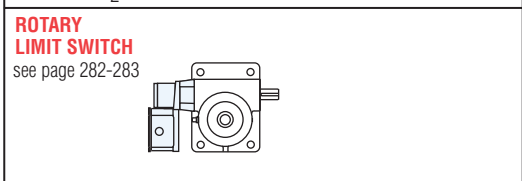
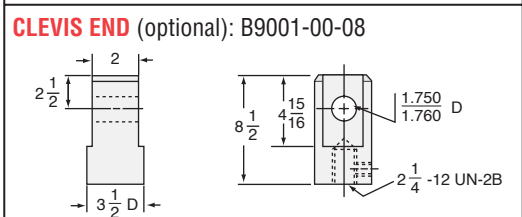
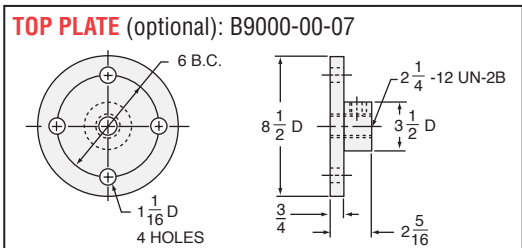
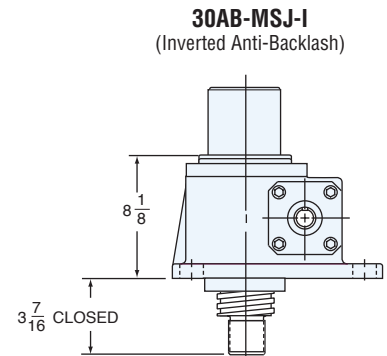
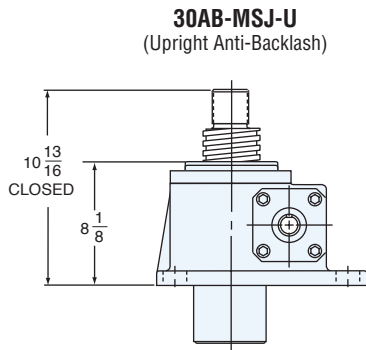
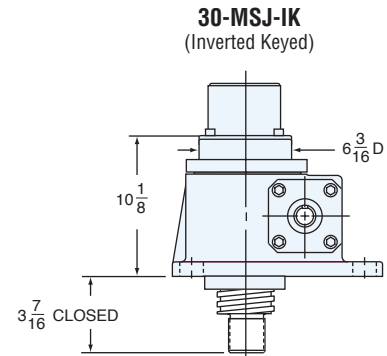
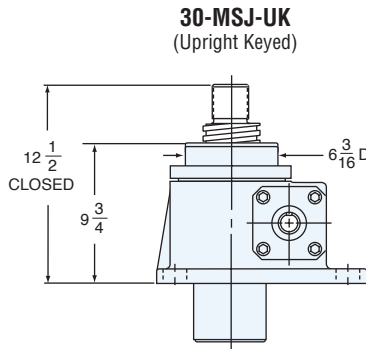
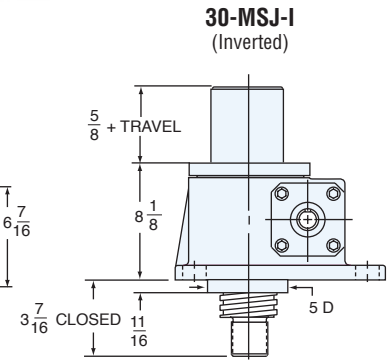
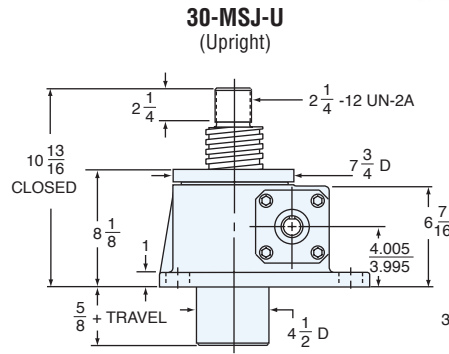
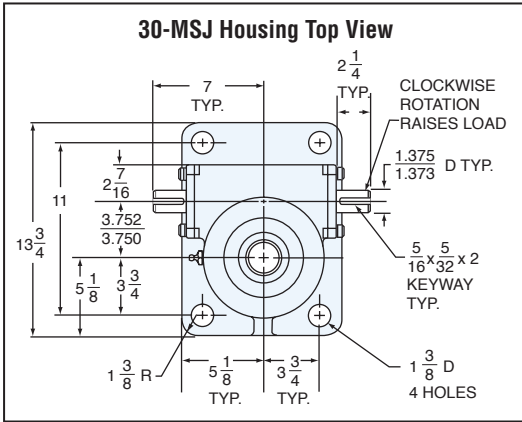
**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL  
+  $5\frac{1}{16}$

**20-MSJ STANDARD SCREW**

SCREW:  $2\frac{1}{2}$  - 2  
ROOT DIAMETER: 1.908  
DRAG TORQUE: 40 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"0" TRAVEL: 80.0  
PER INCH TRAVEL: 1.8  
GREASE: 2.25

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
8:1	16	.0435 in.-lbs.	.0500 in.-lbs.	7 $\frac{1}{2}$	272 rpm	236 rpm	6209 lbs.	5402 lbs.
24:1	48	.0218 in.-lbs.	.0251 in.-lbs.	2 $\frac{1}{2}$	180 rpm	157 rpm	4130 lbs.	3587 lbs.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL  
+ 13 1/16

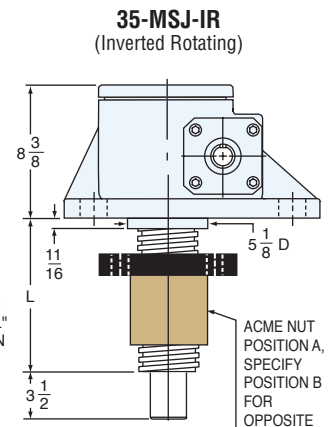
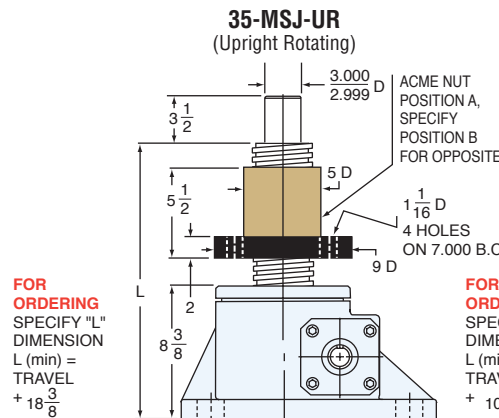
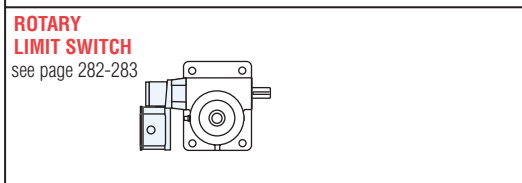
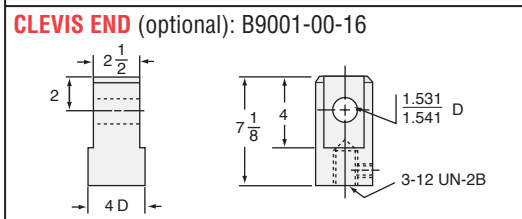
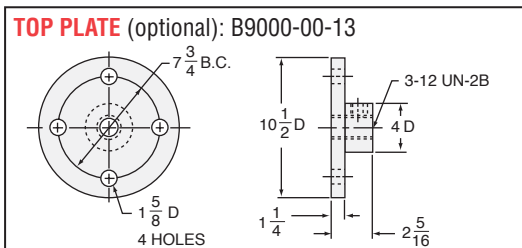
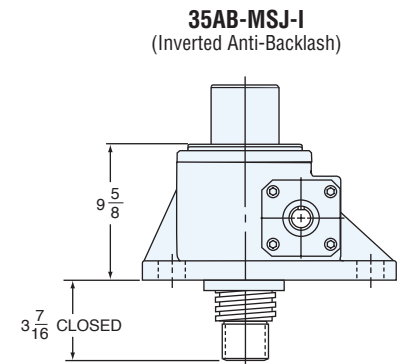
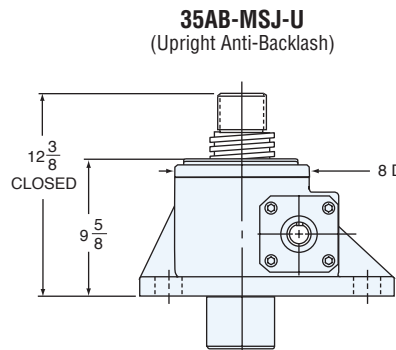
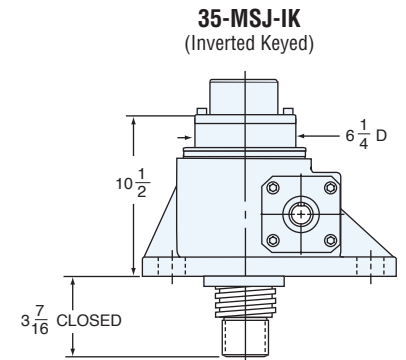
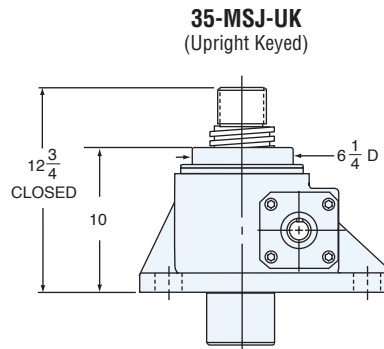
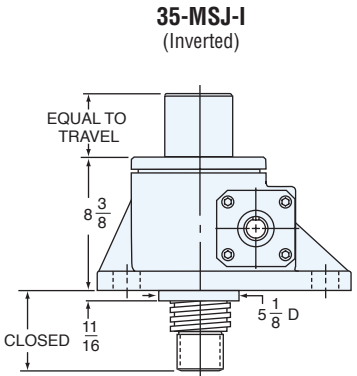
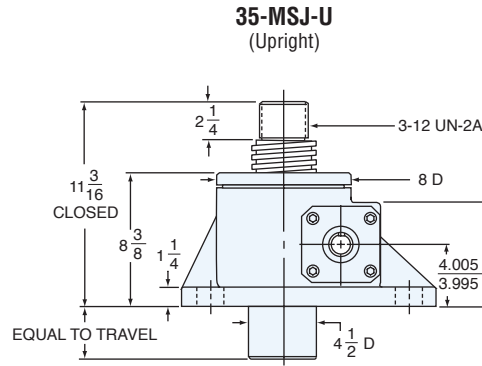
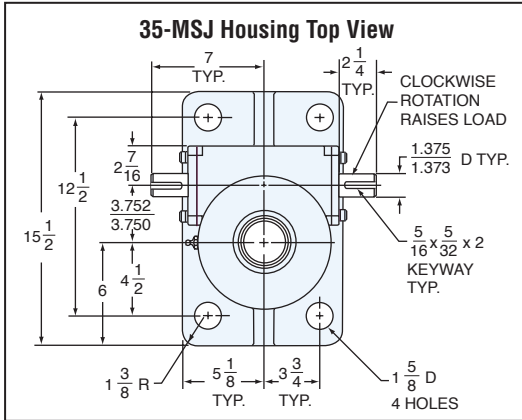
**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL  
+ 6 3/16

**30-MSJ STANDARD SCREW**

SCREW: 3 3/8 - 1 1/2  
ROOT DIAMETER: 2.652  
DRAG TORQUE: 40 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"0" TRAVEL: 145.0  
PER INCH TRAVEL: 2.9  
GREASE: 3.5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
10 <sup>2</sup> :1	16	.0452 in.-lbs.	.0520 in.-lbs.	11	256 rpm	222 rpm	8764 lbs.	7618 lbs.
32:1	48	.0235 in.-lbs.	.0270 in.-lbs.	3 1/2	156 rpm	136 rpm	5364 lbs.	4668 lbs.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 18 3/8

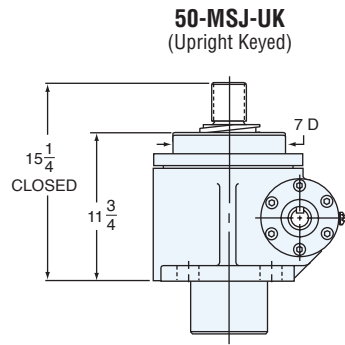
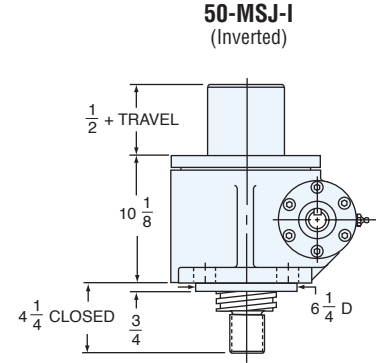
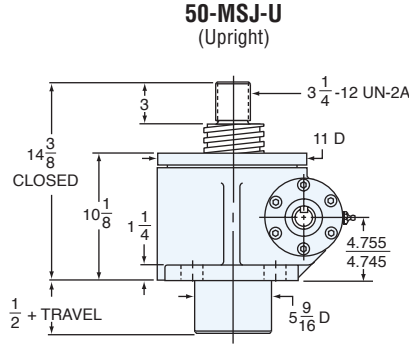
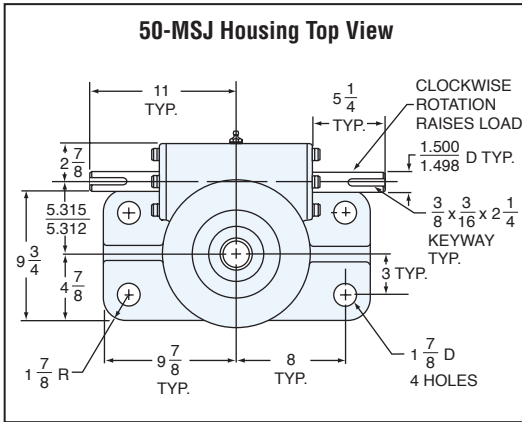
**FOR ORDERING**  
SPECIFY "L" DIMENSION  
L (min) = TRAVEL + 10 11/16

**35-MSJ STANDARD SCREW**

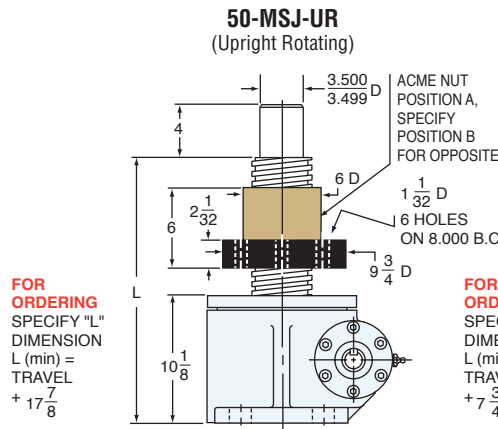
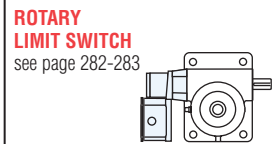
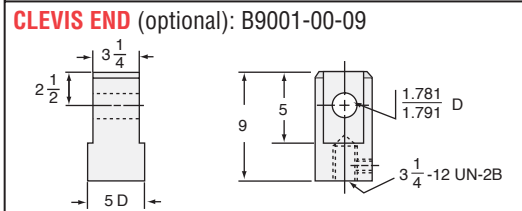
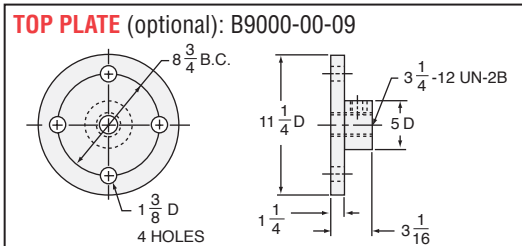
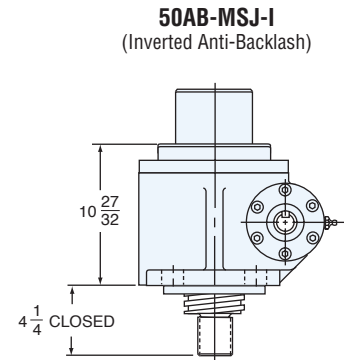
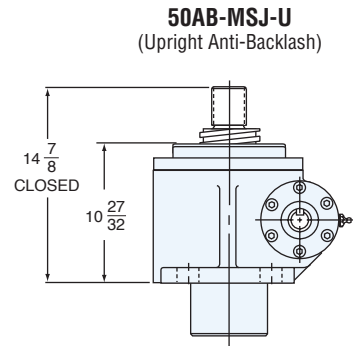
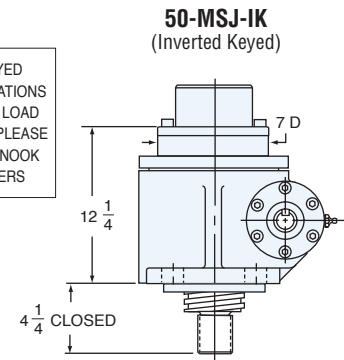
SCREW: 3 3/4 - 1 1/2  
ROOT DIAMETER: 3.009  
DRAG TORQUE: 50 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"0" TRAVEL: 145.0  
PER INCH TRAVEL: 3.4  
GREASE: 3.5

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
10 2/3:1	16	.0493 in.-lbs.	.0570 in.-lbs.	11	200 rpm	174 rpm	8035 lbs.	6950 lbs.
32:1	48	.0257 in.-lbs.	.0295 in.-lbs.	3 1/2	122 rpm	107 rpm	4904 lbs.	4273 lbs.

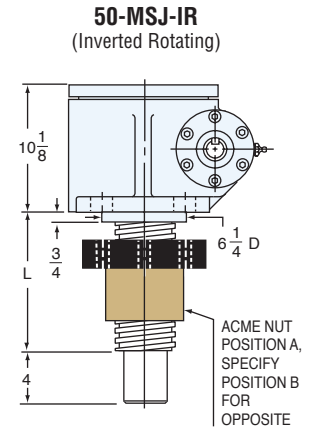
LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



FOR KEYED CONFIGURATIONS REDUCED LOAD CAPACITY, PLEASE CONTACT NOOK ENGINEERS



FOR ORDERING SPECIFY "L" DIMENSION L (min) = TRAVEL + 7 3/4



ACME NUT POSITION A, SPECIFY POSITION B FOR OPPOSITE

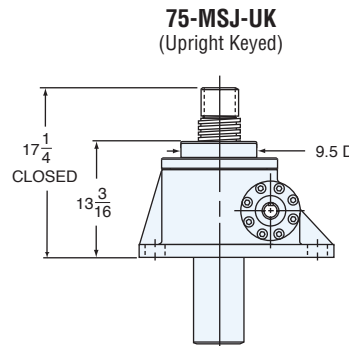
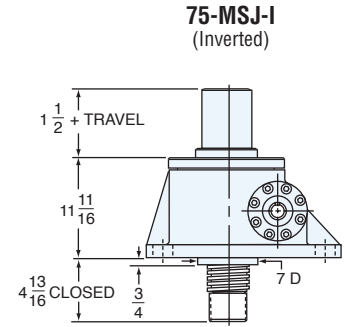
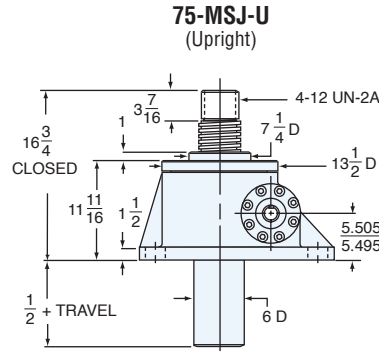
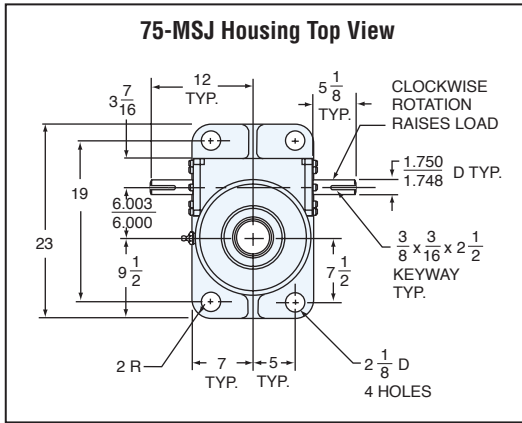
**50-MSJ STANDARD SCREW**

SCREW: 4 1/2 - 1 1/2  
ROOT DIAMETER: 3.782  
DRAG TORQUE: 100 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"0" TRAVEL: 280.0  
PER INCH TRAVEL: 5.0  
GREASE: 5.8

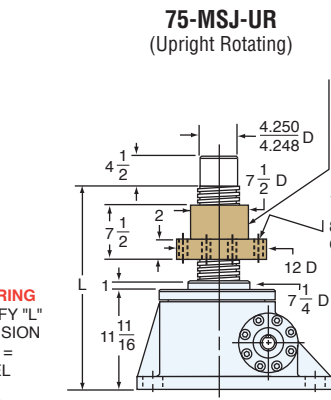
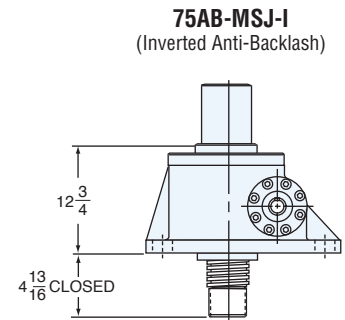
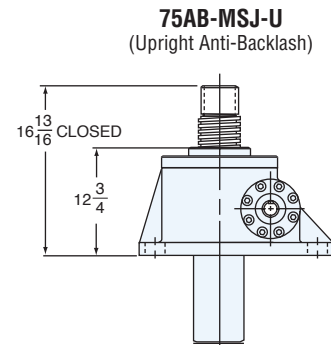
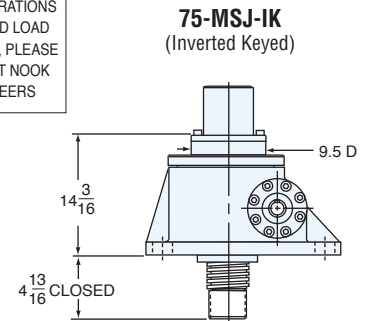
RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
10 <sup>2</sup> /3:1	16	.0555 in.-lbs.	.0638 in.-lbs.	16	181 rpm	158 rpm	10382 lbs.	9032 lbs.
32:1	48	.0301 in.-lbs.	.0346 in.-lbs.	5	104 rpm	91 rpm	5982 lbs.	5204 lbs.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.

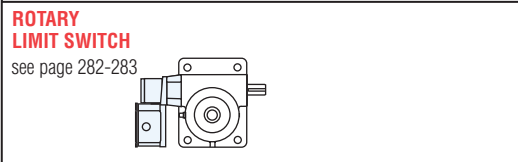
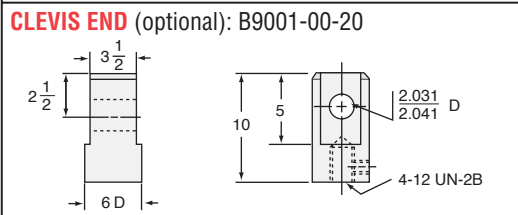
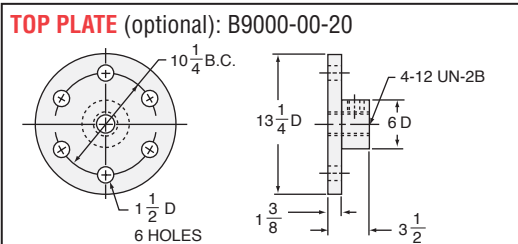
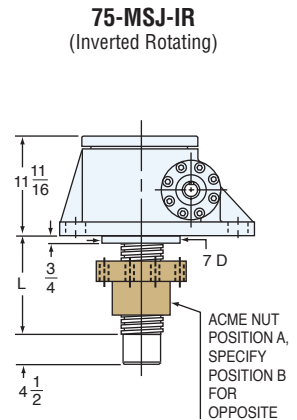




FOR KEYED CONFIGURATIONS REDUCED LOAD CAPACITY, PLEASE CONTACT NOOK ENGINEERS



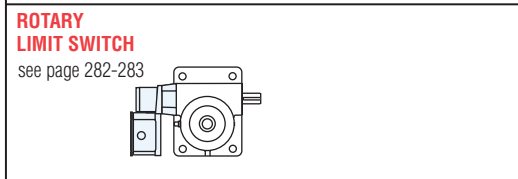
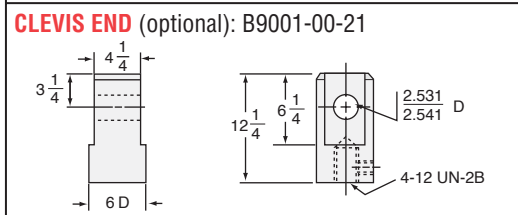
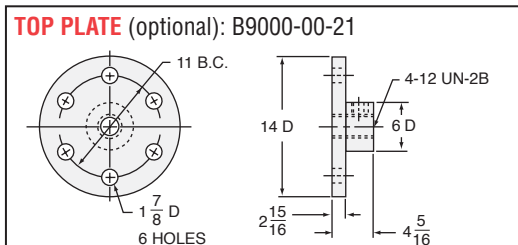
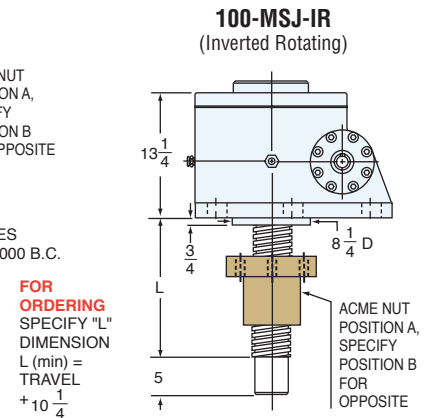
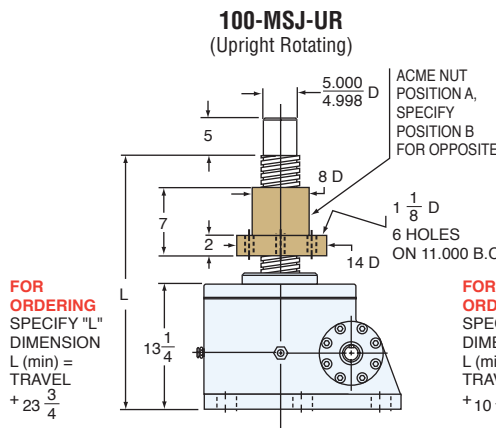
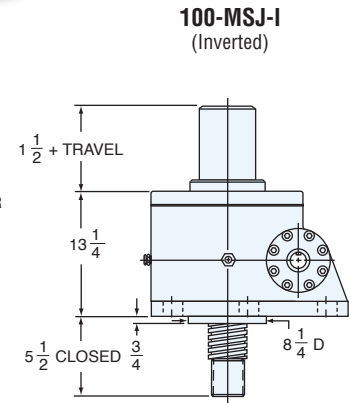
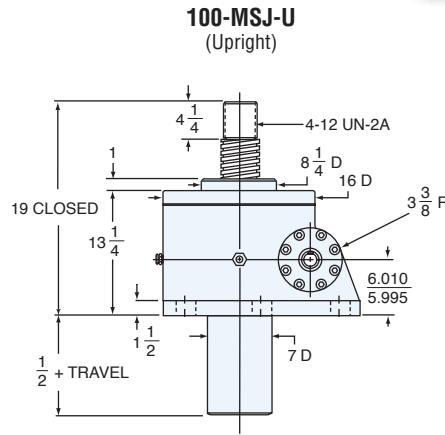
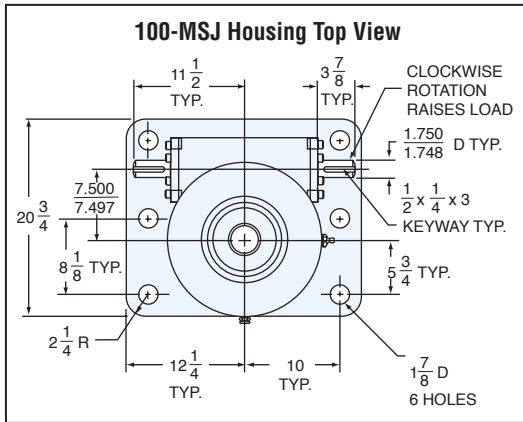
FOR ORDERING SPECIFY "L" DIMENSION L (min) = TRAVEL + 10 1/4



**75-MSJ STANDARD SCREW**  
SCREW: 5 - 1 1/2  
ROOT DIAMETER: 4.286  
DRAG TORQUE: 155 IN.-LB.  
START TORQUE: 2 x Running Torque  
WEIGHT (Approx. in Pounds)  
"0" TRAVEL: 610.0  
PER INCH TRAVEL: 6.5  
GREASE: 9.0

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
10 2/3 : 1	16	.0549 in.-lbs.	.0631 in.-lbs.	28	214 rpm	186 rpm	18368 lbs.	15950 lbs.
32 : 1	48	.0252 in.-lbs.	.0290 in.-lbs.	9	150 rpm	130 rpm	12862 lbs.	11180 lbs.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



**100-MSJ STANDARD SCREW**

SCREW: 6 - 1 1/2  
 ROOT DIAMETER: 5.254  
 DRAG TORQUE: 205 IN.-LB.  
 START TORQUE: 2 x Running Torque  
 WEIGHT (Approx. in Pounds)  
 "0" TRAVEL: 975  
 PER INCH TRAVEL: 8.5  
 GREASE: 16.0

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.		MAX. HP	MAX. WORM SPEED AT RATED LOAD		MAX. LOAD AT 1750 RPM	
		NON-KEYED	KEYED		NON-KEYED	KEYED	NON-KEYED	KEYED
10 2/3:1	16	.0665 in.-lbs.	—	32	153 rpm	—	17330 lbs.	—
32:1	48	.0377 in.-lbs.	—	12 1/2	106 rpm	—	11941 lbs.	—

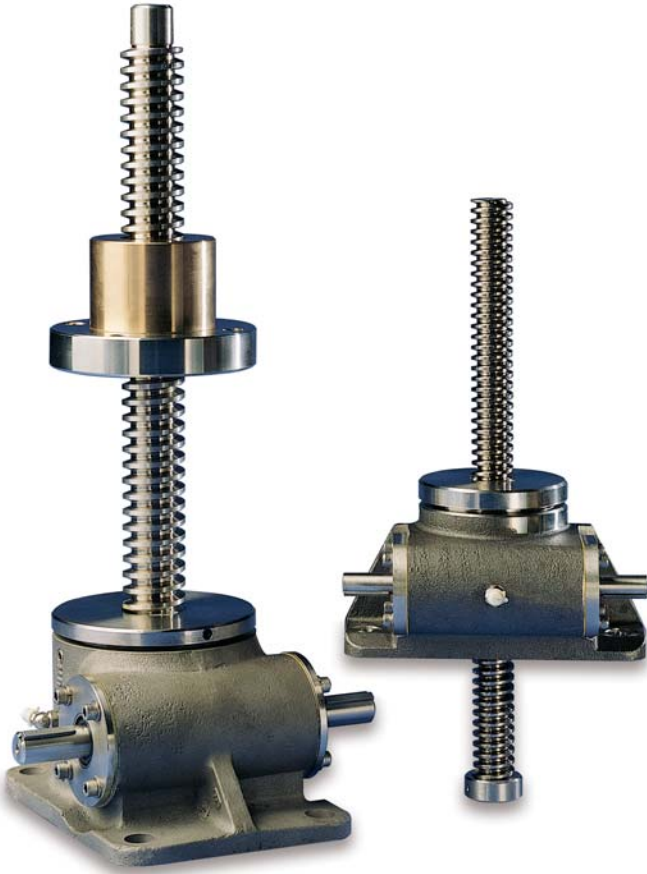
LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.

# STAINLESS STEEL MACHINE SCREW JACKS

ActionJac™ Stainless Steel Machine Screw Jacks are ideal for use in demanding environments where corrosion resistance is required. All external components are manufactured from 300 series Stainless Steel materials. These jacks use a stainless steel worm with a high strength bronze drive sleeve. The worm and drive sleeve are supported by tapered roller bearings and sealed to prevent loss of lubrication and to resist contamination. The stainless steel lifting screw threads are precision formed to Class 2-C (centralizing) thread profiles.

Load capacities for Stainless Steel Machine Screw Jacks range from 1,300 to 23,000 pounds. A 17-4PH hardened worm is available for a 300% increase in capacity.

See the technical introduction at the beginning of this section for a description of Stainless Steel Machine Screw Jack features.



### Download Accurate Moveable Assembly 3D Models and 2D Drawings

#### For ActionJac™ Worm Gear Screw Jacks:

- **Configure** specific requirements for your Worm Gear Screw Jack application in a simple interface, including motor adapter, right angle reducer, bellows boots and limit switch accessories.
- **View** complete assemblies on-line with zoom, pan and rotate capabilities.
- **Download** true assembly models with full range of motion in native AutoCAD®, SolidWorks®, Pro/E®, CATIA®, ParaSolids®, SAT® and many other formats.
- **Order** complete jack assemblies with generated part number.

Download  
**3D Models**



[www.nookindustries.com](http://www.nookindustries.com)





JACK SIZES					JACK SELECTION								
MODEL	Capacity (tons)	Lifting Screw Dia. (in)	Screw Lead (in)	Root Dia. (in)	Gear Ratio	Turns of Worm for 1" Travel	Maximum Input Torque (in.-lb.)	Maximum Allowable Input (hp)	Maximum Worm Speed at Rated Load	Maximum Load at 1750 RPM	Torque to Raise 1 lb. (in.-lb.)	Tare Drag Torque (in.-lb.)	Page Ref
2SS-MSJ	0.66	1	.250	.698	6:1	24	33	2	1800	1330	.0250	4	337
					24:1	96	14	1/2	1800	1320	.0150	4	337
5SS-MSJ	1.67	1 1/2	.375	1.066	6:1	16	125	3	1510	2873	.0376	10	338
					24:1	64	48	3/4	985	1875	.0144	10	338
10SS-MSJ	3.33	2	.500	1.410	8:1	16	251	5	1255	4775	.0377	20	339
					24:1	48	128	1 1/2	739	2813	.0192	20	339
15SS-MSJ	5.00	2 1/4	.500	1.684	8:1	16	407	5	774	4424	.0407	20	340
					24:1	48	218	1 1/2	434	2478	.0218	20	340
20SS-MSJ	6.66	2 1/2	.500	1.908	8:1	16	580	5	540	4140	.0435	40	341
					24:1	48	291	1 1/2	325	2478	.0218	40	341
25SS-MSJ	8.30	3	.667	2.287	10 2/3:1	16	903	11	768	8764	.0452	50	342
					32:1	48	471	3 1/2	468	5364	.0235	50	342
35SS-MSJ	11.66	3 3/4	.667	3.083	10 2/3:1	16	1150	11	603	8035	.0493	50	343
					32:1	48	600	3 1/2	368	5022	.0251	50	343

\* Measurements listed are for non-keyed units. See individual jack pages for keyed jack info.

**NOTES:**

- 1) The recommended maximum speed is 1800 rpm provided that the recommended horsepower and temperature are not exceeded.
- 2) Input torque is shown as torque to lift one pound of load. Starting Torque is 100% greater than torque shown. Tare drag torque should be added for all loads.
- 3) Maximum allowable horsepower ratings are based on a 25% duty cycle. For operation at higher duty cycles or repeated use over any segment of the total travel, temperature must be monitored and remain less than 200°F.
- 4) Overload capacity of the Stainless Steel Machine Screw Jack is as follows: 10% for dynamic loads, 30% for static loads.
- 5) Stainless Steel Machine Screw Jacks having gear ratios between 20:1 and 32:1, are self-locking and will hold loads without backdriving in the absence of vibration. All other ratios may require a brake to prevent backdriving.
- 6) All units are suitable for intermittent operation providing that the housing temperature including ambient is not lower than -20°F. or higher than +200°F. Factory supplied grease in standard units will operate in this range. For higher or lower operating temperature ranges consult Nook Industries.

- 7) Accessories such as boots, top plates and clevises are available.
- 8) Catalog dimensions are representative only and are subject to change without notice. For construction, use only certified prints.
- 9) Units are not to be used as personnel support or movement.
- 10) End-of-travel stops are not provided.

‡ For greater capacity, specify a 17-4PH hardened worm.

\* Tare drag torque need only be added if operating under 25% rated load.

$$\text{Horsepower per jack} = \frac{\text{Torque to raise one pound} \times \text{Number of pounds to be raised} \times \text{rpm}}{63,025}$$

Starting Torque is 100% greater than torque shown.

Column strength is the ability of the lift shaft to hold compressive loads without buckling. With longer screw lengths, column strength may be substantially lower than nominal jack capacity.

If the lift shaft is in tension only, the screw jack travel is limited by the available screw material or by the critical speed of the screw. Refer to the acme screw technical section for critical speed limitations. If there is any possibility for the lift shaft to go into compression, the application should be sized for sufficient column strength.

The chart below is used to determine the required jack size in applications where the lift shaft is loaded in compression.

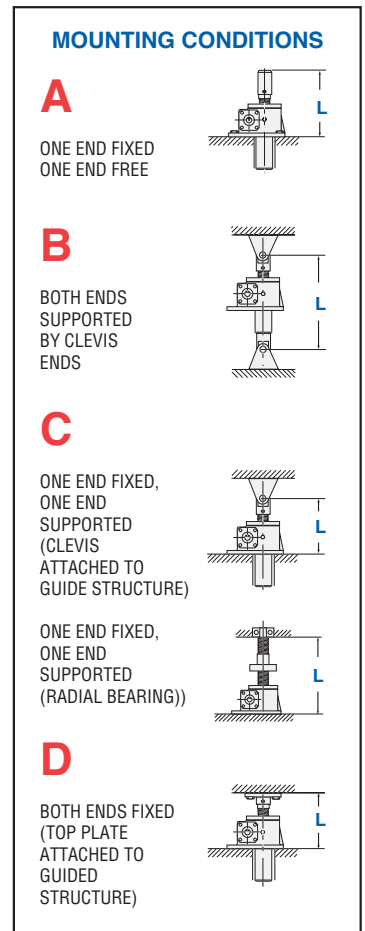
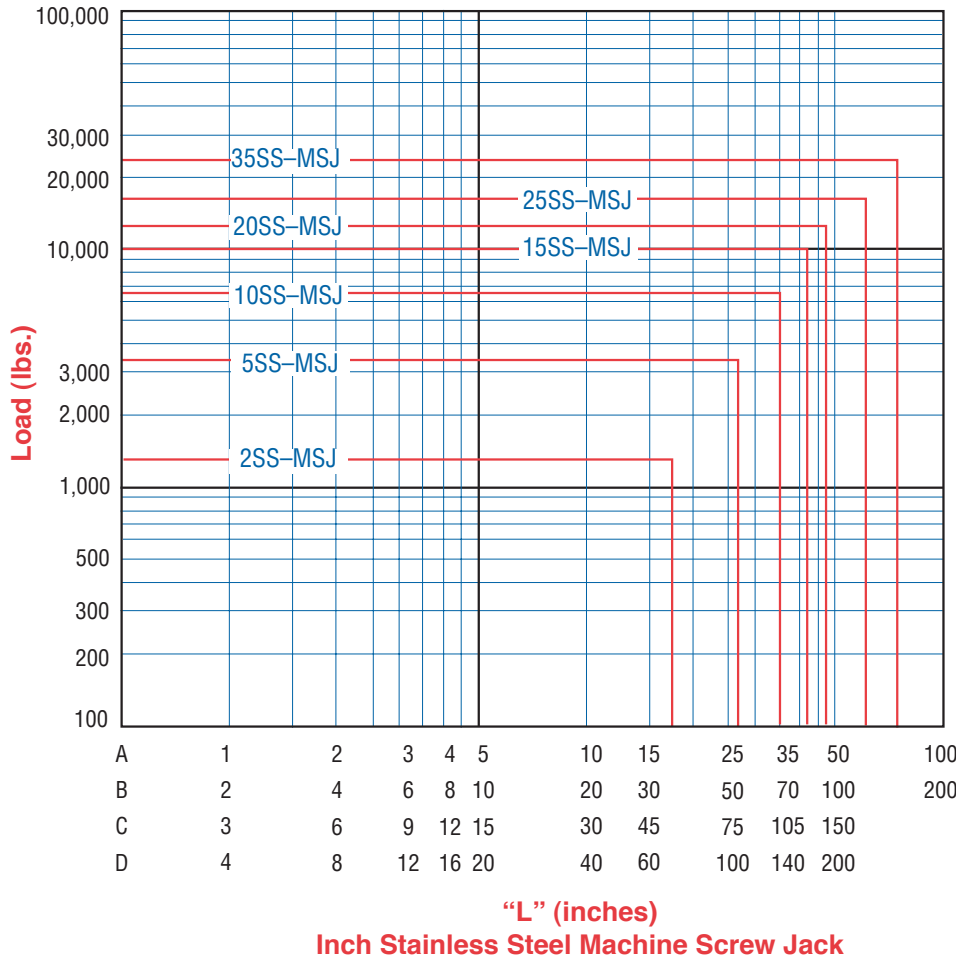
To use this chart:

Find a point at which the maximum length “L” intersects the maximum load. Be sure the jack selected is above and to the right of that point.

**CAUTION:** chart does not include a design factor.

The chart assumes proper jack alignment with no bending loads on the screw. Effects from side loading are not included in this chart. Jacks operating horizontally with long lift shafts can experience bending from the weight of the screw. Consult Nook Industries, Inc. if side thrust is anticipated, operating horizontally, or maximum raise is greater than 30 times the screw diameter.

**IF 17-4PH WORM IS ORDERED, REFER TO PAGE 316 FOR COLUMN STRENGTH**



INCH STAINLESS STEEL MACHINE SCREW JACKS TECHNICAL DATA

**AVAILABLE LIFT SCREW LENGTHS**

As a major manufacturer of industrial lead screws, Nook Industries stocks a broad selection of stainless acme screws. Nook Industries has the capacity to make long acme screws for special applications. Rotating screw

jacks can be built with a larger diameter lift screw for greater column strength, or a different lead to change the jack operating speed.

**2SS-MSJ- U 6:1 / SSE-1 / 000-2 / FT / 24.5 / SB**

INCH STAINLESS STEEL MACHINE SCREW JACKS TECHNICAL DATA

**SS MACHINE SCREW MODEL**

Ton	Model #
0.66	= 2SS-MSJ
1.67	= 5SS-MSJ
3.33	= 10SS-MSJ
5.00	= 15SS-MSJ
6.66	= 20SS-MSJ
8.30	= 25SS-MSJ
11.66	= 35SS-MSJ

**CONFIGURATION**

- U** = Upright
- I** = Inverted
- UR** = Upright Rotating
- IR** = Inverted Rotating

**GEAR RATIO**

Refer to product pages for available ratios.

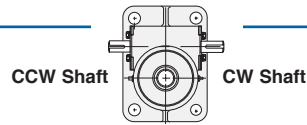
**SHAFT ORDER CODE**

- CCW Position 1
- CW Position 2

**ORDER CODES (Must Include A Position)**

**NO ACCESSORY**

- SSE-** = Standard Shaft Extension, Position 1 or 2
- 000-** = Delete Shaft Extension, Position 1 or 2
- SPC-** = Special Modified Shaft Extension, Position 1 or 2



**NOTE:** Both Shaft Extensions Must Be Specified

**HOUSING CONFIGURATION**

- F** = Standard Flange Base

**SCREW CONFIGURATION**

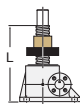
**TRANSLATING - U and I MODELS**

- T** = Standard Threaded End
- C** = Clevis End
- P** = Top Plate

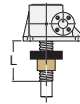
**ROTATING - UR and IR MODELS**

- A** = Travel Nut Position "A"
- B** = Travel Nut Position "B"

**UR** - Upright Rotating      **IR** - Inverted Rotating



Travel Nuts shown in position "A"



**TRAVEL**

**TRANSLATING - U and I MODELS**  
use actual Travel in inches.

**ROTATING - UR and IR MODELS**  
use "L" Dimension in Inches.

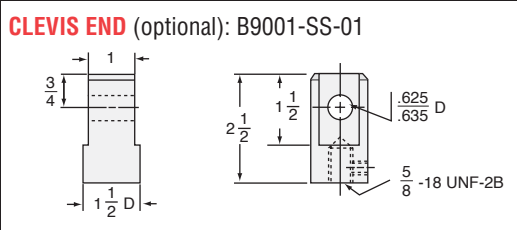
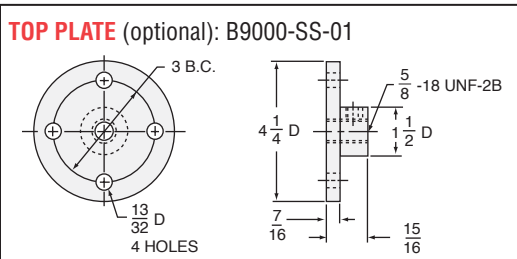
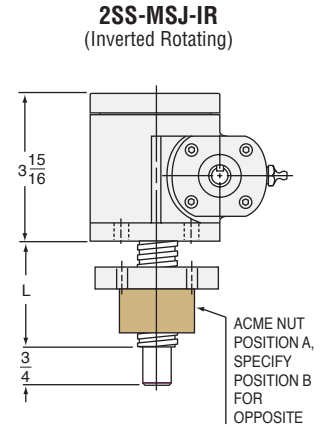
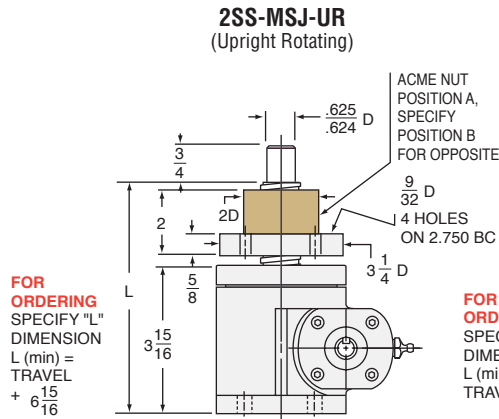
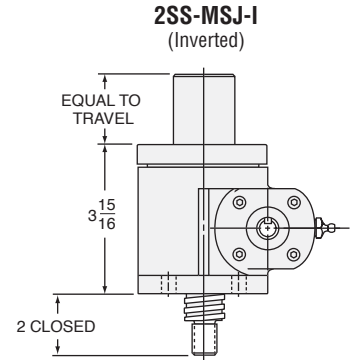
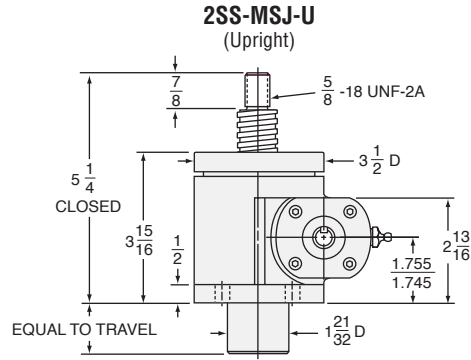
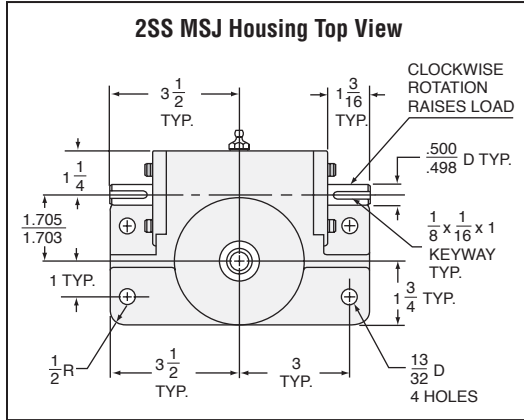
**MODIFIER LIST**

**S or M Required**

- S** = Standard. no additional description required
- M** = Modified, additional description required

**E, B and/or H Optional**

- E** = In-Line Encoder (motor or motor mount required)
- B** = Bellows Boots (must calculate retracted and extended boot length, see page 280-281)
- H** = Hardened Worm

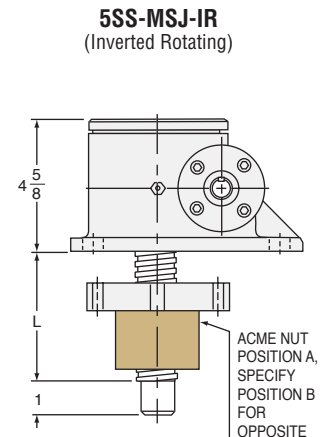
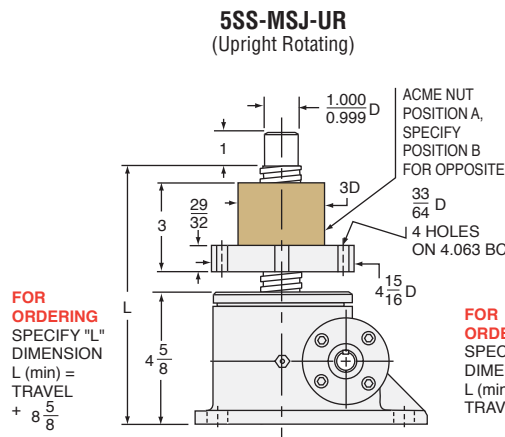
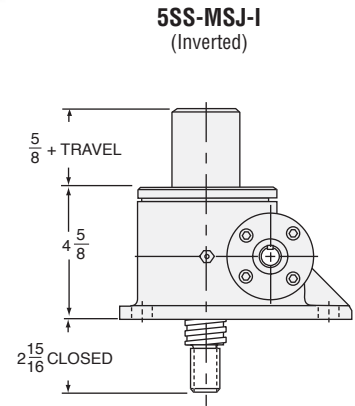
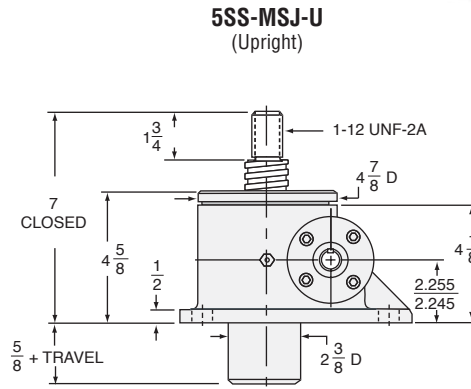
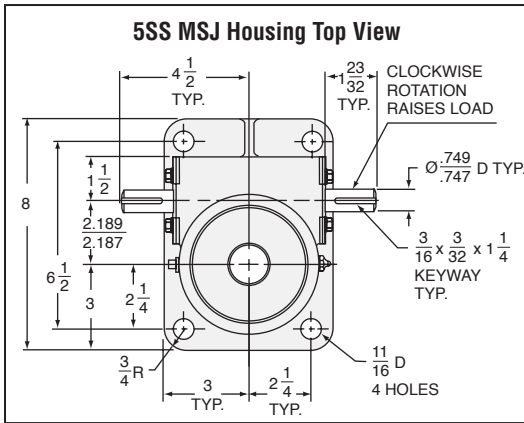


**2SS-MSJ STANDARD SCREW**

SCREW: 1 - 4  
 ROOT DIAMETER: 0.698  
 DRAG TORQUE: 4 IN.-LB.  
 START TORQUE: 2 x Running Torque  
 WEIGHT (Approx. in Pounds)  
 "0" TRAVEL: 17  
 PER INCH TRAVEL: .5  
 GREASE: .5

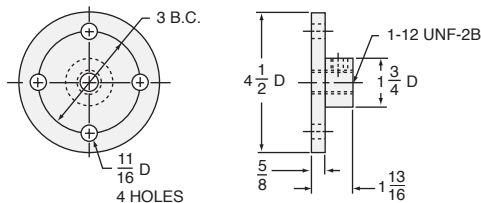
RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.	MAX. HP	MAX. WORM SPEED AT RATED LOAD	MAX. LOAD AT 1750 RPM
6:1	24	.0250 in.-lbs.	2	1800 rpm	1330 lbs.
24:1	96	.0105 in.-lbs.	1/2	1800 rpm	1330 lbs.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.

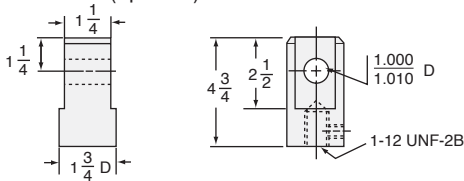


1/2 INCH STAINLESS STEEL MACHINE SCREW JACKS TECHNICAL DATA

**TOP PLATE (optional): B9000-SS-02**



**CLEVIS END (optional): B9001-SS-02**



**5SS-MSJ STANDARD SCREW**

SCREW:  $1\frac{1}{2}$  -  $2\frac{2}{3}$

ROOT DIAMETER: 1.066

DRAG TORQUE: 10 IN.-LB.

START TORQUE: 2 x Running Torque

WEIGHT (Approx. in Pounds)

"0" TRAVEL: 32

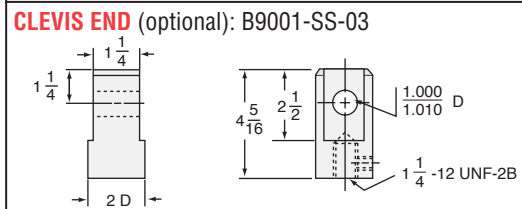
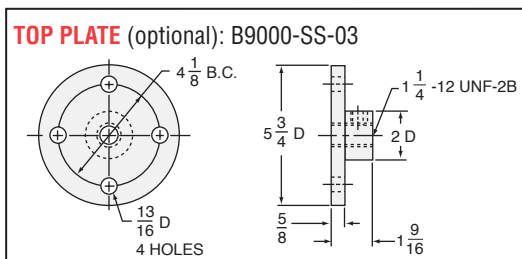
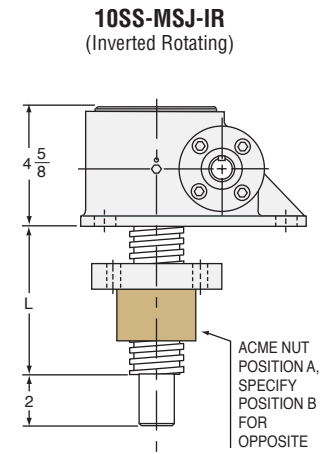
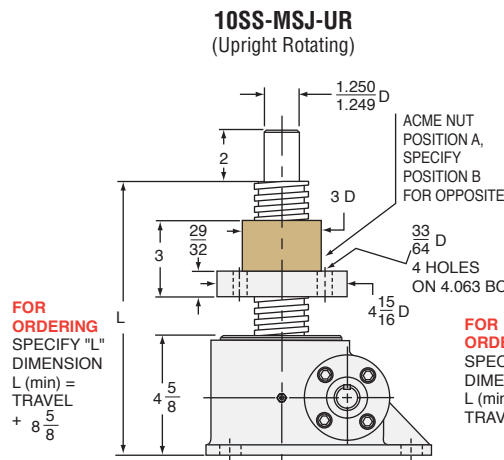
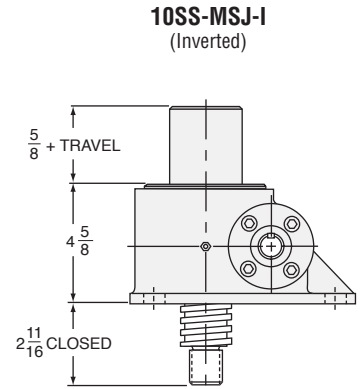
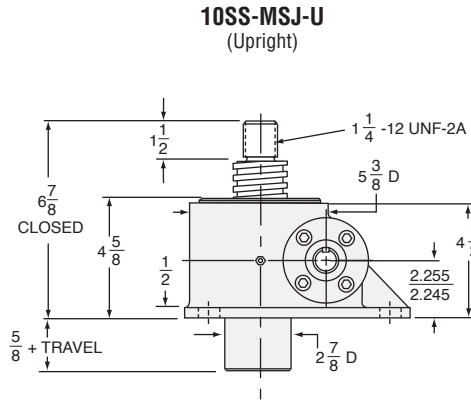
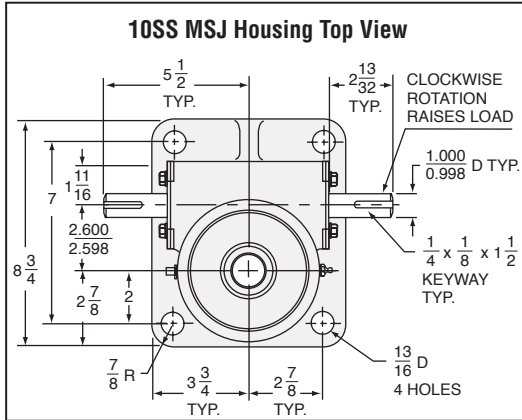
PER INCH TRAVEL: .7

GREASE: 1.00

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.	MAX. HP	MAX. WORM SPEED AT RATED LOAD	MAX. LOAD AT 1750 RPM
6:1	16	.0376 in.-lbs.	3	1510 rpm	2873 lbs.
24:1	64	.0144 in.-lbs.	$\frac{3}{4}$	985 rpm	1875 lbs.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



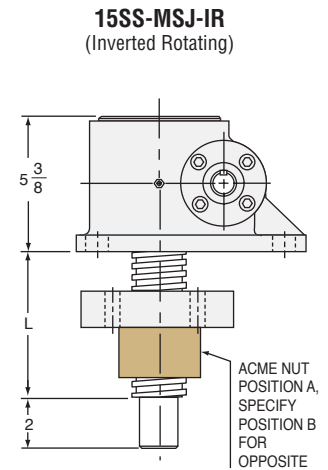
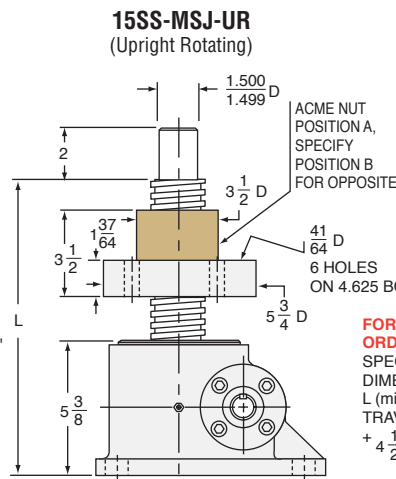
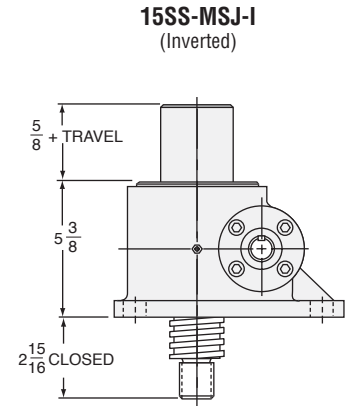
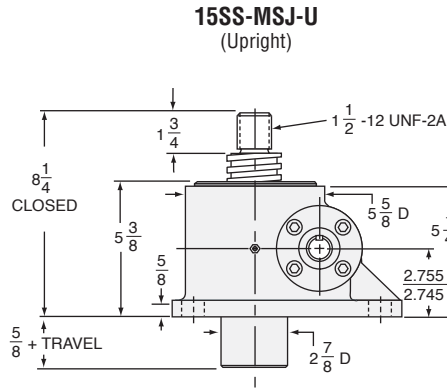
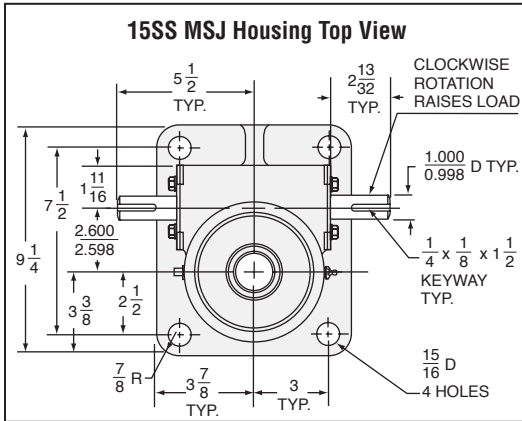


**10SS-MSJ STANDARD SCREW**

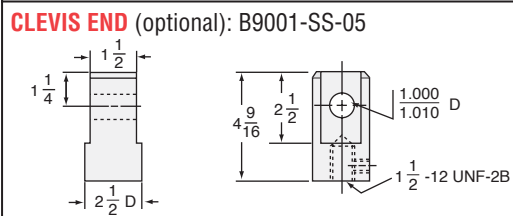
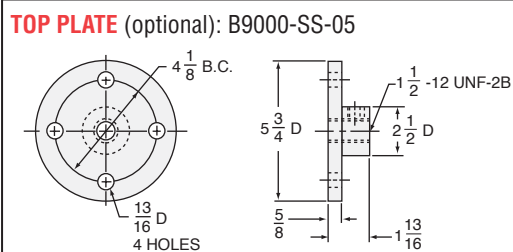
SCREW: 2 - 2  
 ROOT DIAMETER: 1.410  
 DRAG TORQUE: 20 IN.-LB.  
 START TORQUE: 2 x Running Torque  
 WEIGHT (Approx. in Pounds)  
 "0" TRAVEL: 50  
 PER INCH TRAVEL: 1.2  
 GREASE: 1.50

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.	MAX. HP	MAX. WORM SPEED AT RATED LOAD	MAX. LOAD AT 1750 RPM
8:1	16	.0377 in.-lbs.	5	1255 rpm	4775 lbs.
24:1	48	.0192 in.-lbs.	1 1/2	739 rpm	2813 lbs.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



INCH STAINLESS STEEL MACHINE SCREW JACKS TECHNICAL DATA

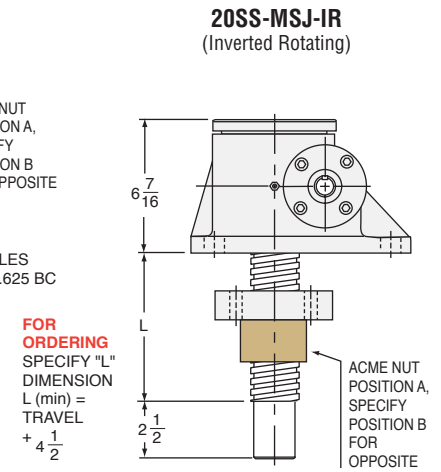
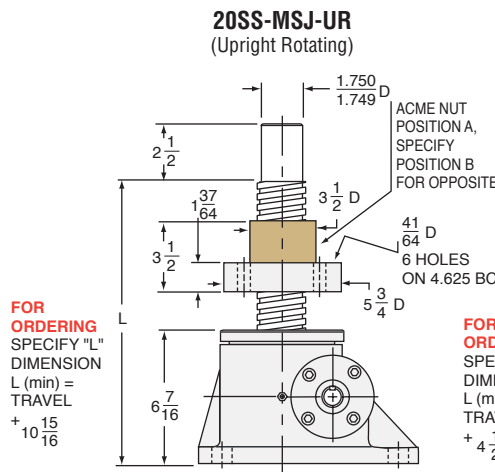
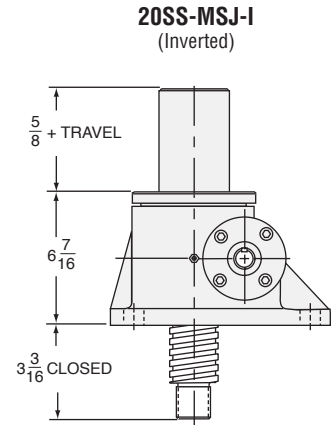
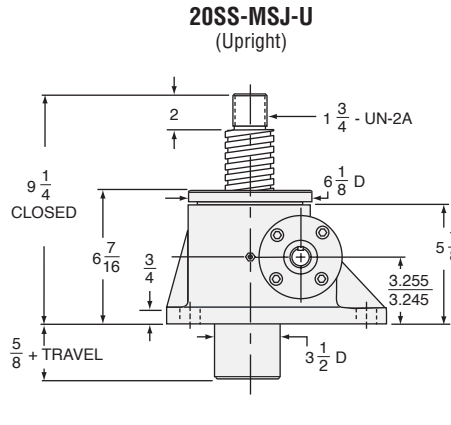
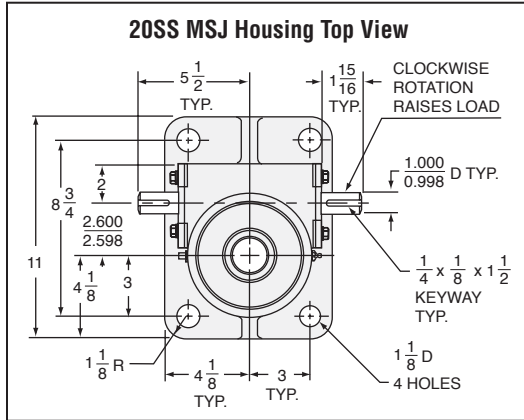


**15SS-MSJ STANDARD SCREW**

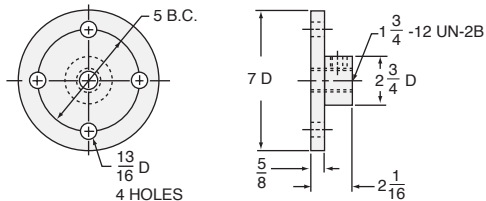
SCREW: 2 1/4 - 2  
 ROOT DIAMETER: 1.684  
 DRAG TORQUE: 20 IN.-LB.  
 START TORQUE: 2 x Running Torque  
 WEIGHT (Approx. in Pounds)  
 "0" TRAVEL: 60  
 PER INCH TRAVEL: 1.4  
 GREASE: 1.50

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.	MAX. HP	MAX. WORM SPEED AT RATED LOAD	MAX. LOAD AT 1750 RPM
8:1	16	.0407 in.-lbs.	5	774 rpm	4424 lbs.
24:1	48	.0218 in.-lbs.	1 1/2	434 rpm	2478 lbs.

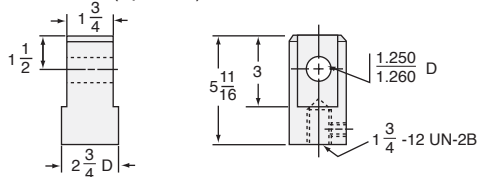
LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



**TOP PLATE (optional): B9000-SS-06**



**CLEVIS END (optional): B9001-SS-06**

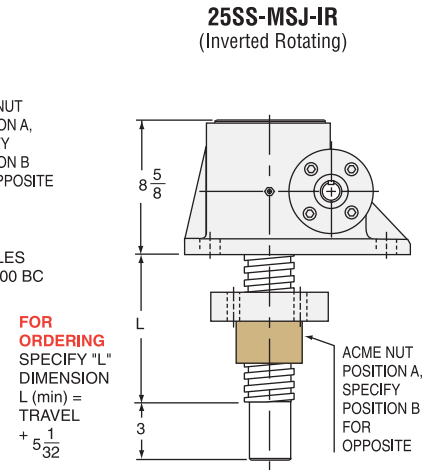
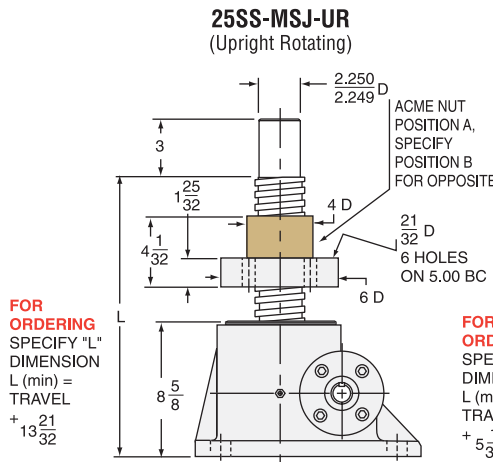
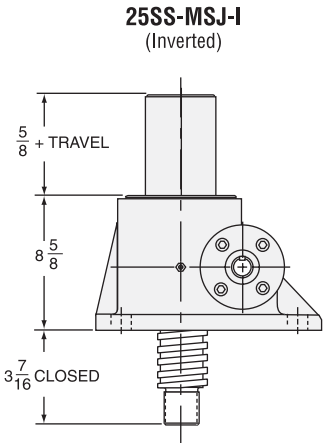
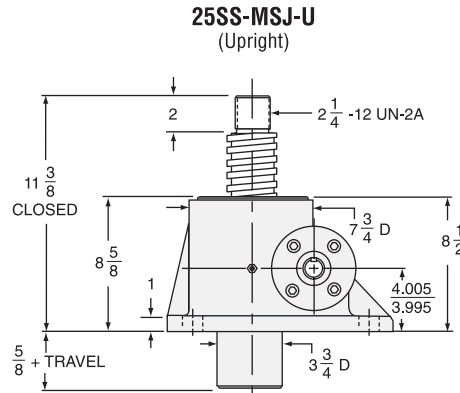
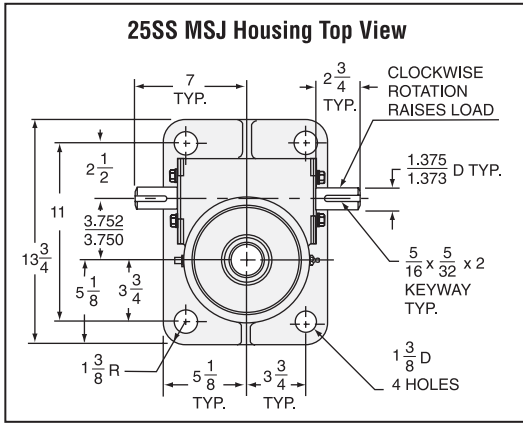


**20SS-MSJ STANDARD SCREW**

SCREW:  $2\frac{1}{2}$  - 2  
 ROOT DIAMETER: 1.908  
 DRAG TORQUE: 40 IN.-LB.  
 START TORQUE: 2 x Running Torque  
 WEIGHT (Approx. in Pounds)  
 "0" TRAVEL: 85  
 PER INCH TRAVEL: 2.0  
 GREASE: 2.25

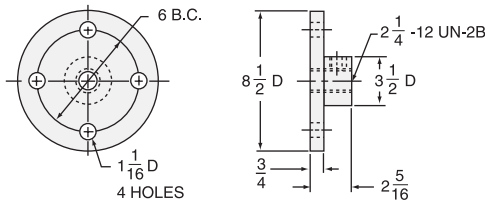
RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.	MAX. HP	MAX. WORM SPEED AT RATED LOAD	MAX. LOAD AT 1750 RPM
8:1	16	.0435 in.-lbs.	5	540 rpm	4140 lbs.
24:1	48	.0218 in.-lbs.	1½	325 rpm	2478 lbs.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.

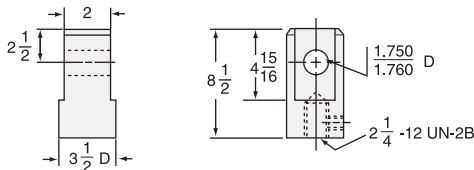


1/2 INCH STAINLESS STEEL MACHINE SCREW JACKS TECHNICAL DATA

**TOP PLATE (optional): B9000-SS-07**



**CLEVIS END (optional): B9001-SS-08**

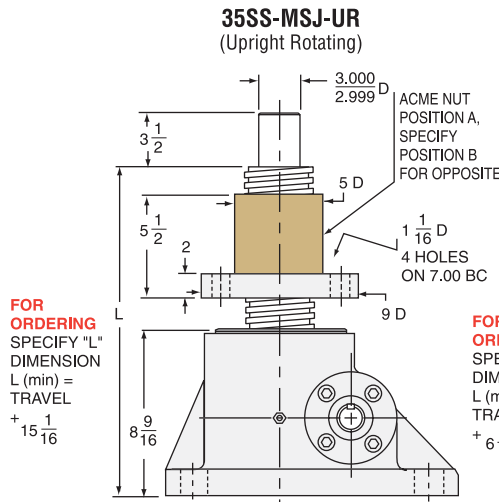
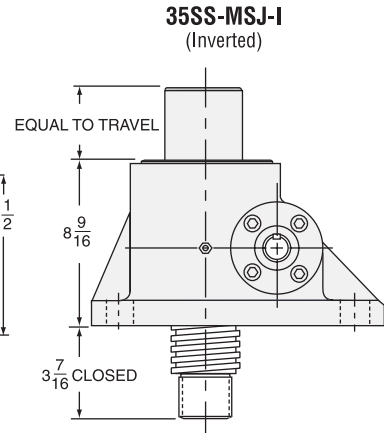
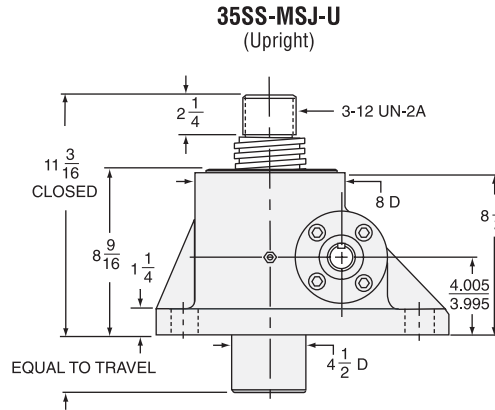
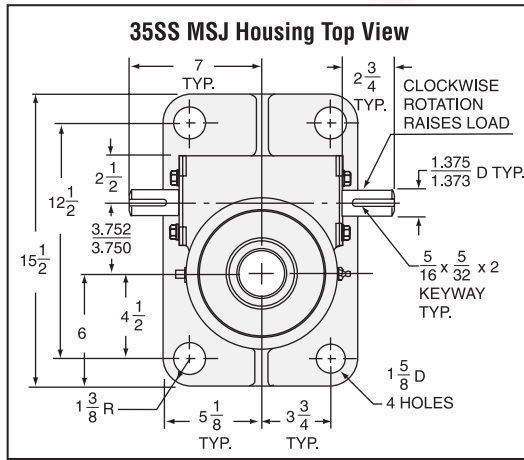


**25SS-MSJ STANDARD SCREW**

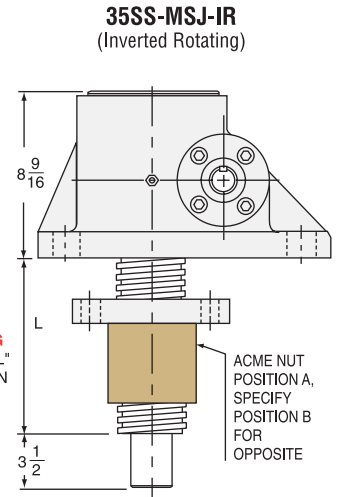
SCREW: 3 - 1 1/2  
 ROOT DIAMETER: 2.287  
 DRAG TORQUE: 50 IN.-LB.  
 START TORQUE: 2 x Running Torque  
 WEIGHT (Approx. in Pounds)  
 "0" TRAVEL: 155  
 PER INCH TRAVEL: 3.1  
 GREASE: 3.50

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.	MAX. HP	MAX. WORM SPEED AT RATED LOAD	MAX. LOAD AT 1750 RPM
10 2/3:1	16	.0452 in.-lbs.	11	768 rpm	7310 lbs.
32:1	48	.0235 in.-lbs.	3 1/2	468 rpm	4457 lbs.

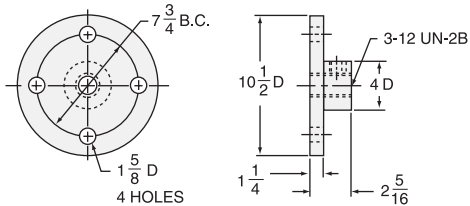
LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.



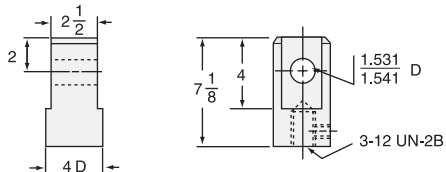
**FOR ORDERING SPECIFY "L" DIMENSION L (min) = TRAVEL + 6 1/2**



**TOP PLATE (optional): B9000-SS-13**



**CLEVIS END (optional): B9001-SS-16**



**35SS-MSJ STANDARD SCREW**

**SCREW:** 3 3/4 - 1 1/2  
**ROOT DIAMETER:** 3.009  
**DRAG TORQUE:** 50 IN.-LB.  
**START TORQUE:** 2 x Running Torque  
**WEIGHT (Approx. in Pounds)**  
**"0" TRAVEL:** 165  
**PER INCH TRAVEL:** 3.5  
**GREASE:** 3.50

RATIO	TURNS OF WORM PER INCH TRAVEL	TORQUE TO RAISE ONE LB.	MAX. HP	MAX. WORM SPEED AT RATED LOAD	MAX. LOAD AT 1750 RPM
10 <sup>2</sup> / <sub>3</sub> :1	16	.0493 in.-lbs.	11	603 rpm	8035 lbs.
32:1	48	.0251 in.-lbs.	3 1/2	368 rpm	4906 lbs.

LIFTING SCREW OR NUT MUST BE SECURED TO PREVENT ROTATION FOR NON-KEYED UNITS.  
**CAUTION!** JACK MAY BE SELF-LOWERING IN SOME OPERATING CONDITIONS.