

Boston Gear®

VOR Series

VariTorque Overload Release Air Clutches

P-3031-BG

Installation and Operation

VOR Series
VariTorque



 **Boston**
Gear

a division of **Altra Industrial Motion**

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Mount the appropriate sprocket or sheave to the clutch housing using the pilot and bolt holes provided. Loosen the split locking collar and install the clutch on the shaft with a key. A stop pin in the bore will limit the length of the shaft in the clutch. Lock in place by tightening the split locking collar.

Remove the protective cap from the air union air inlet. Connect a flexible air line from your control system to the air union (1/4" N.P.T.). The line should not exceed a length of 10 feet. The air supply should be clean lubricated air.

No exterior bracing should be used to prevent the housing of the rotary union from rotating. To compensate for any eccentricities occurring from installation, it is imperative that a flexible connection be used.

DO NOT PIPE SOLID. Use a 45-degree elbow and pipe union on the riser, making certain there is a slight curve in the hose. Do not install hose taut. (Consult Deublin maintenance and operating instructions packed with each unit.)

The actuator of the limit switch should be set to operate within the travel of the actuating plate (see Figure 1).

Operating Instructions

Normal operating air pressure range is 20 to 80 p.s.i.

To engage the clutch increase the air pressure to 20-40 p.s.i. Jog the machine until the clutch engages in its single home position. Adjust the trip-out torque by increasing or decreasing the air pressure supplied to the clutch to reach the desired torque value. The clutch is now ready for normal operation.

It is now possible to vary the torque for high starting and stopping loads and lower running loads by varying the air pressure to the clutch.

Should the clutch disengage, follow the jog procedure described above (paragraph 2).

Maintenance

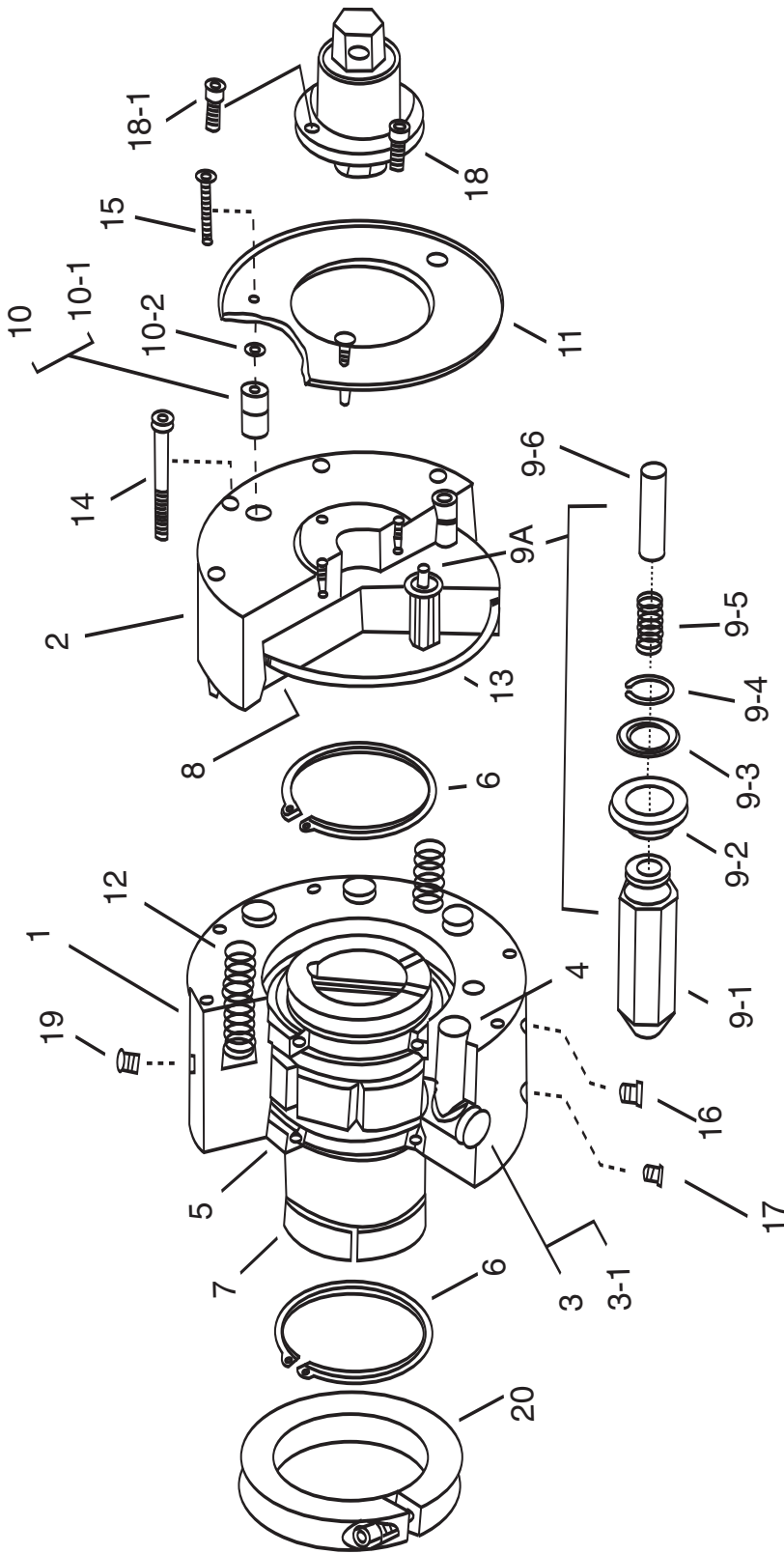
The VOR Series VariTorque is constructed of heavy duty materials. All wearing parts are hardened for long life. The VariTorque incorporates sealed ball bearings prepacked with grease and a Deublin rotating air union.

Under reasonably clean conditions, the unit will operate with a minimum of maintenance and lubrication. Frequency of maintenance is dependent upon many factors.

Suggested Lubrication

Grease pack and relief fittings are provided in the clutch housing for lubrication with a Bentone type, NLGI grade 0 grease. An oil cup on the rotating union is provided for lubrication with high quality SAE #30 motor oil. The lubrication schedule should be in accordance with good operating practices for the equipment on which the clutch is mounted.

(Consult Deublin maintenance and operating instructions packed with each unit.)



VOR Series, Trig-O-Matic Model

Size	Travel of Actuating Plate on Disengagement (In/mm)
VOR-11	.13/3.3
VOR-13	.16/4.1

Figure 1

Part Identification For VariTorque Overload Release Air Clutch Basic Unit

Item	Name	Clutch Size							
		VOR-11L	Qty	VOR-11H	Qty	VOR-13L	Qty	VOR-13H	Qty
1	Housing	730301-002	1	730301-002	1	730569-002	1	730569-002	1
2	Cylinder	730312-002	1	730313-002	1	730310-002	1	730311-002	1
3	Pawl Assembly	710351-002	6	710351-002	6	710352-002	6	710352-002	6
3-1	Pawl O Ring	023750-228	6	023750-228	6	023750-151	6	023750-151	6
4	Pressure Pin	730342-002	6	730342-002	6	730330-002	6	730330-002	6
5	Bearing	039273-039	2	039273-039	2	039273-038	2	039273-038	2
6	Rotor Snap Ring	039191-085	2	039191-085	2	039191-083	2	039191-083	2
7	Rotor Assembly	710457-002	1	710457-002	1	710458-002	1	710458-002	1
**7-1	Dowel Pin	*	2	*	2	023921-057	0	23921-0572	2
8	Piston	730344-001	1	730346-001	1	730332-001	7	30340-0011	1
9A	Valve Assembly	710114-001	1	710114-001	1	710114-001	1	710114-001	1
9-1	Valve Body	730333-001	1	730333-001	1	730333-001	1	730333-001	1
9-2	Valve Seal	730334-001	1	730334-001	1	730334-001	1	730334-001	1
9-3	Valve Washer	730335-001	1	730335-001	1	730335-001	1	730335-001	1
9-4	Snap Ring	039191-084	1	039191-084	1	039191-084	1	039191-084	1
9-5	Valve Spring	034124-078	1	034124-078	1	034124-078	1	034124-078	1
9-6	Valve Pin	023921-021	1	023921-021	1	023921-021	1	023921-021	1
10	Trip Pin	730336-001	3	730341-001	3	730336-001	3	730341-001	3
10-1	Trip Pin O Ring	N/A		023750-228	3	N/A		023750-228	3
10-2	Trip Pin Seal	N/A		023750-234	3	N/A		023750-234	3
11	Trip Plate	730345-002	1	730345-002	1	730353-003	1	730353-003	1
12	Piston Spring	034124-081	3	034124-081	3	034124-085	3	034124-085	3
13	Piston O Ring	023750-023	1	023750-132	1	023750-124	1	023750-333	1
14	Cylinder Bolt	731433-069	6	731433-069	6	731433-069	8	731433-069	8
15	Trip Plate Bolt	074265-021	3	074264-009	3	074265-021	3	074264-009	3
16	Air Muffler	730338-001	1	730338-001	1	730338-001	1	730338-001	1
17	Grease Fitting	034186-029	1	034186-029	1	034186-029	1	034186-029	1
18	Air Union	730339-001	1	730339-001	1	730339-001	1	730339-001	1
18-1	Union Screws	731433-018	4	731433-018	4	731433-018	4	731433-018	4
19	Grease Relief	034186-028	1	034186-028	1	034186-028	1	034186-028	1
20	Clamp Collar	731514-001	1	731514-001	1	731485-001	1	731485-001	1

* Dependent on bore - consult the factory

** Dowel Pin not shown

Note: Please include clutch catalog number when ordering any spare parts.

VOR Series Part Numbering System

VOR	11	B	B	-	L	P16	Series
Size Style	Type	Cylinder Unit Bore					
VariTorque	11	B = End Shaft	B = Basic	(Torque Range)	P= Bored to Size (in 1/16")		
Overload Release	13			L = Small	M= Metric Bored to Size (mm)		
Air Clutch				H = Large			

CAUTION Rotating equipment is potentially dangerous and could cause injury or damage if not properly protected. Follow all applicable codes and regulations.

In accordance with our established policy to constantly improve our products, the specifications contained herein are subject to change without notice.

Warranty

The Company warrants that products manufactured or sold by it shall be free from defects in material and workmanship. Any products which shall within one (1) year of delivery, be proved to the Company's satisfaction to have been defective at the time of delivery in these respects will be replaced or repaired by the Company at its option. Freight is the responsibility of the customer. The Company's liability under this limited warranty is limited to such replacement or repair and it shall not be held liable in any form of action for direct or consequential damages to property or person. THE FOREGOING LIMITED WARRANTY IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES WHATSOEVER, EXPRESS, IMPLIED AND STATUTORY AND INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.

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