

MIDLAND B-3715 AND B-3715SW **VALVE ACTUATOR**

Installation and Operation Instructions

B-3715 and B-3715SW Valve Actuator Requirements:

1. For use on Midland A-713, A-715, A-727 angle valves; and, ACF 1301 angle valve.
2. A clean, dry compressed air or nitrogen supply is required. (A filter and dryer or water separator should be installed upstream of the actuator.) The supply pressure should be a minimum of 110 psig and a maximum of 150 psig. Minimum air flow is 33 scfm per actuator when running.
3. An oiler or lubricator must be installed in the supply line.
4. Supply lines running less than 50 feet to and from the actuator must be a minimum of 3/8" I.D. There should be no restrictive hose fittings with ports less than 1/4" I.D.
5. The actuator exhaust port must not be restricted under 1/4".
6. Actuator Requirements to Close Valve (actuator close port) -
 - 1) Select close port of actuator. This is the port which runs the actuator clockwise when viewed from the top or hose connection end.
 - 2) Regulate air supply to 40 psig for Midland valves and 80 psig for ACF valves.
 - 3) A 3 way 3/8" full ported solenoid valve is required. The solenoid valve must be connected so that air is supplied to the actuator when the solenoid is not energized. For valve closure upon loss of power, a normally open, energize to close, solenoid is recommended.
7. Actuator Requirements to Open Valve (actuator open port) -
 - 1) Select open port of actuator. This is the port which runs the actuator counter-clockwise when viewed from the top or hose connection end.
 - 2) Regulate air supply to 30 psig for Midland valves, and 80 psig for ACF valves.
 - 3) A 3 way 3/8" full ported solenoid valve is required. The solenoid valve must be connected so that air is supplied to the actuator when the solenoid is energized. To prevent the valve from being open upon loss of power, a normally closed, energize to open, solenoid is recommended.
8. The use of an air supply reservoir near the controls is recommended. This reservoir's capacity should be sufficient to reliably close the valve after opening. A low air pressure alarm and/or safety shutdown should occur automatically if the supply air pressure is insufficient.

9. **IMPORTANT**: IF THE ACTUATOR IS TAKEN OUT OF SERVICE, LUBRICATE IT WITH OIL VIA THE OPEN AND CLOSE FITTINGS AT THE TOP OF THE ACTUATOR.

B-3715 AND B-3715SW VALVE ACTUATOR INSTALLATION:

[Referenced item #'s are in Figure 1]

1. Determine if the valve to be actuated is a Midland (MMC), or an ACF. The valve can be easily identified by the configuration of the handwheel. The Midland handwheel has no holes, and the ACF valve has four(4) holes.
2. Ensure that the 3-way valve on the air manifold is selected to the correct air pressure line. The Midland valve is operated with 40 PSIG air pressure, and the ACF valve is operated with 90 PSIG air pressure. Long air lines from the manifold to the actuators may require higher air pressure. The regulators are factory set and generally do not require adjustment. [*The actuator is now ready to be installed on the valve*]. The B-3715SW proximity switch cable is connected to the air manifold terminal (see air manifold wiring), which automatically selects correct air pressure line with respect to the valve on which the actuator is installed. Selection of pressure line is automatic and dictated by the distance between the proximity switch and the ring on the upper plate of the coupler. When the actuator is mounted on a Midland valve, the ring is closer to the proximity switch than when it is mounted on an ACF valve.

Note: The coupler assembly (item #7) drives the handwheel of the angle valve. The Midland angle valve is driven by the lower drive plate which has projections that fit into the notches of the handwheel. The ACF angle valve is driven by drive pins attached to the upper plate and fit into the holes in the handwheel.

3. Grasp the motor cover with the left hand and retract the hold down arm with the right hand. Place the actuator assembly on the valve by first locating the yoke bracket over the valve bonnet so the cutouts in the bracket straddle the stanchions of the bonnet yoke.
4. Lower the actuator assembly onto the valve and engage the coupler assembly with the handwheel. If the coupler is not properly engaged, the hold down arm will not return to its original position. To properly engage the coupler, lift the coupler guard by its handle and rotate the coupler assembly by hand until either, the lower plate drops into the notches on the Midland handwheel, or the drive pins drop into the holes in the ACF handwheel (see Figures 2 & 3; The coupler was removed from the actuator for demonstration purposes only). The resistance that is felt while rotating the coupler is caused by the gear set in the air motor, this is normal. The hold down arm can then return to its original position and the actuator is ready for operation.

B-3715 AND B-3715SW OPERATIONAL CHECK :**

1. Turn on control system and assure control air is supplied.
2. Test close valve. If valve is already closed, observe reactive torque to assure the system is operational.
3. After loading connections are complete, open and close valve to further be assured system is operational. If an emergency close system is in place, perform an operational check.
4. Proceed with loading or unloading per standard operating procedures.
5. When loading or unloading is complete, close valve, turn off control system as necessary.
6. To Remove Actuator From Valve:
 - A. Grasp the vertical motor cover with the left hand.
 - B. Retract the hold down arm from under the handwheel with the right hand.
 - C. Lift the actuator off of the valve.

** In the absence of company specific operational procedures, this is a suggested operational check.

FIGURE 2 (COUPLER OF B-3715 SHOWN)

MIDLAND VALVE



Coupler not properly engaged



Coupler properly engaged

FIGURE 3 (COUPLER OF B-3715 SHOWN)

ACF VALVE



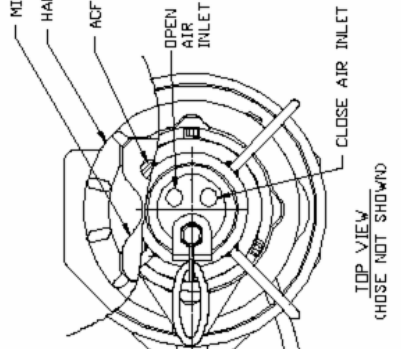
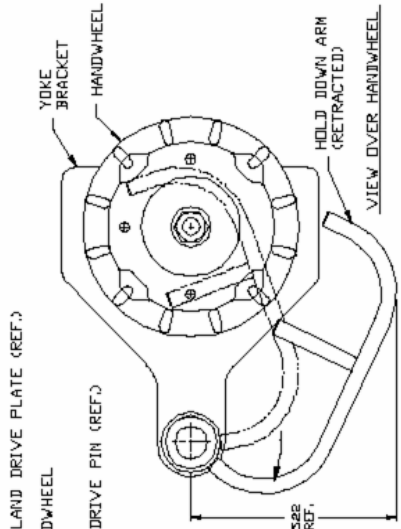
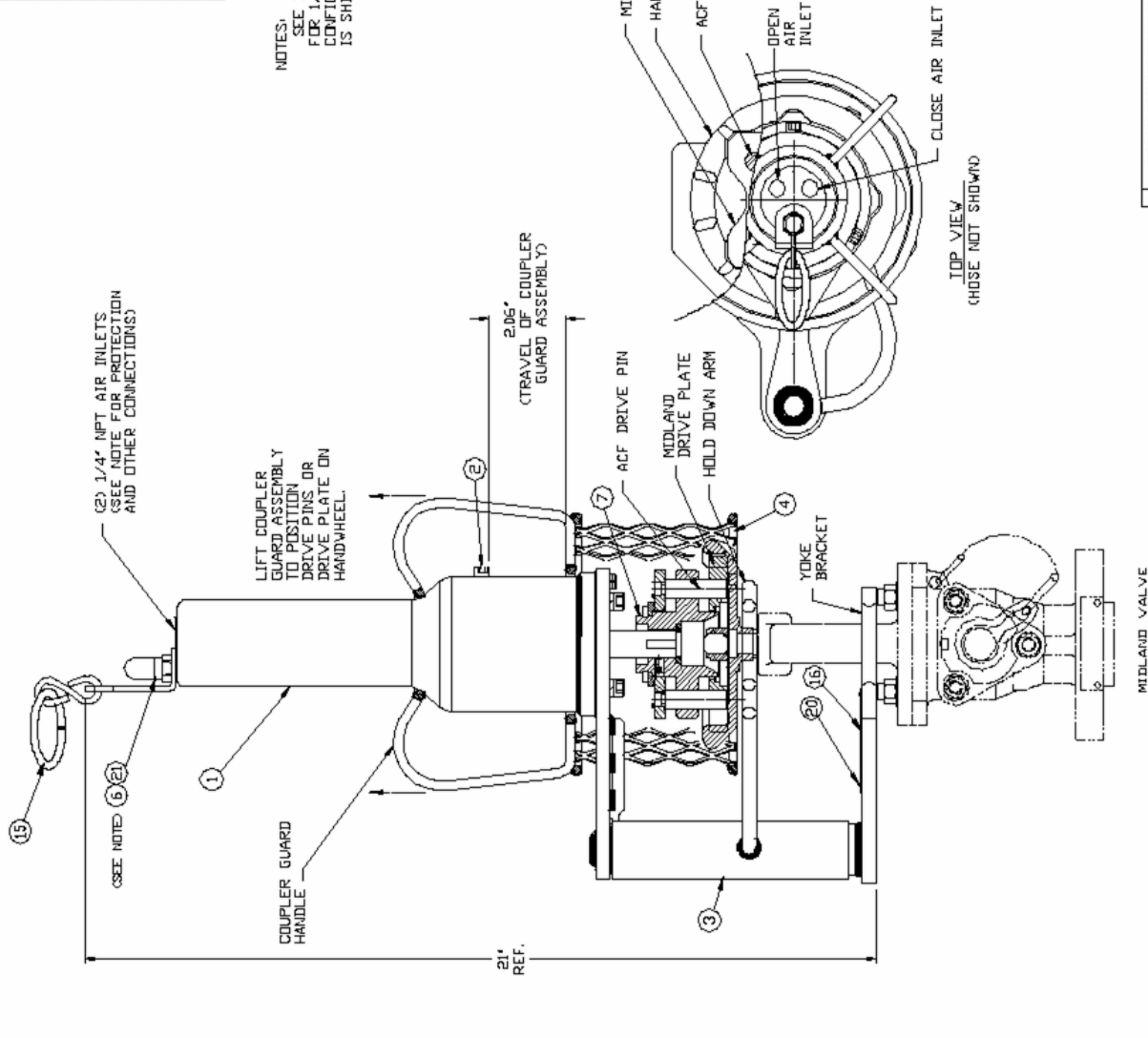
Coupler not engaged



Coupler engaged properly

ITEM QTY	PART NAME	PART NUMBER	MATERIAL
1	MOTOR COVER ASSEMBLY	3715-101-MO	STAINLESS
2	SOCKET HEAD CAP SCREW	3715-102-SS	STAINLESS
3	FULL BRACKET ASSEMBLY	3715-03-MO	STAINLESS
4	COUPLER GUARD ASSEMBLY	3715-04-MO	STAINLESS
6	EXHAUST SILENCER, MUFFLER	3715-06-PE	POLYETHYLENE
7	COUPLER ASSEMBLY	3715-07-MO	STAINLESS
15	LIFT RING ASSEMBLY	3715-15-SS	STAINLESS
16	NAMEPLATE	3715-16-SS	STAINLESS
20	DRIVE SCREW	763-11-SS	STAINLESS
21	1/4 EXHAUST BUSHING	3715-21-SS	STAINLESS

NOTES:
 SEE B-3715 ACCESSORY OPTIONS DRAWING (CAD FILE 3715OPT)
 FOR 1/4" NPT CLOSE AND OPEN AIR INLET PORTS CONNECTION
 CONFIGURATION. IF NO OPTION IS SELECTED, THE B-3715 ACTUATOR
 IS SHIPPED WITH AIR INLET PORTS PROTECTED BY THREAD PLUGS.



MANUFACTURING CORP.
 B-3715 REV. A ACTUATOR

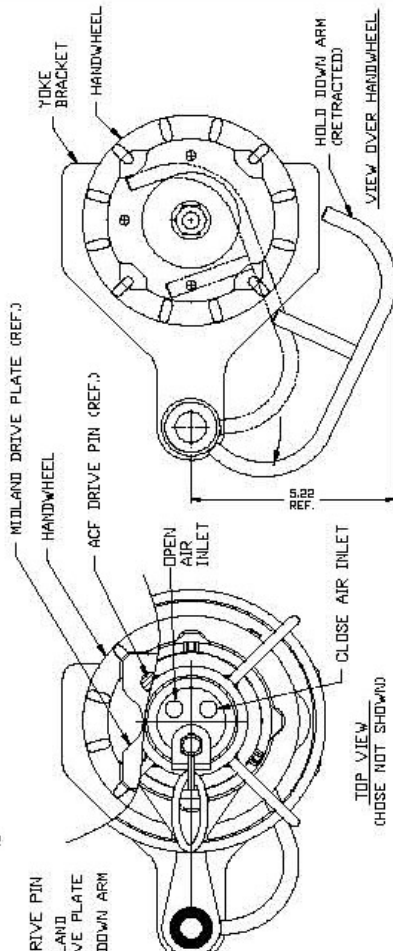
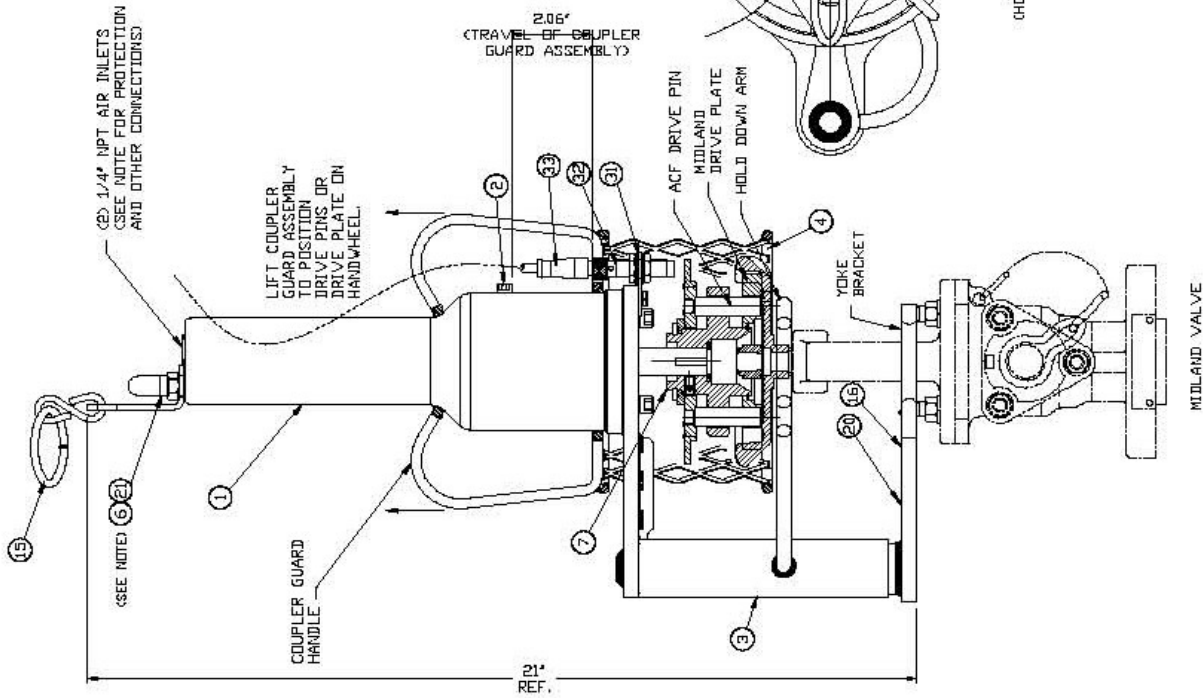
REV. A	REV. A	REV. A	REV. A
REV. B	REV. B	REV. B	REV. B
REV. C	REV. C	REV. C	REV. C
REV. D	REV. D	REV. D	REV. D

RELEASE
 COUPLER HOLD DOWN ARM

REV. A	REV. A	REV. A	REV. A
REV. B	REV. B	REV. B	REV. B
REV. C	REV. C	REV. C	REV. C
REV. D	REV. D	REV. D	REV. D

ITEM QTY	PART NAME	PART NUMBER	MATERIAL
1	MOTOR COVER ASSEMBLY	3713-101-MO	STAINLESS
2	SOCKET HEAD CAP SCREW	3713-102-SS	STAINLESS
3	FULL BRACKET ASSEMBLY	3715-03-MO	STAINLESS
4	COUPLER GUARD ASSEMBLY	3715-04-MO	STAINLESS
6	EXHAUST SILENCER, MUFFLER	3715-06-PE	POLYETHYLENE
7	COUPLER ASSEMBLY	3715-07-SW-MO	STAINLESS
15	LIFT RING ASSEMBLY	3715-15-SS	STAINLESS
16	NAMEPLATE	3715-16-SS	STAINLESS
20	DRIVE SCREW	763-11-SS	STAINLESS
21	1/4 EXHAUST BUSHING	3715-21-SS	STAINLESS
31	SWITCH MOUNT PLATE	3715-31-MO	STAINLESS
32	PROXIMITY SWITCH ASSY	3715-32	SEE DWG
33	PROXIMITY SWITCH CABLE	3715-33	SEE DWG

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HOLAD MANUFACTURING CORP. MONTICELLO, U.S.A.	
B-3715-SW ACTUATOR	
WORKING	SEE TABLE
UNLESS OTHERWISE SPECIFIED	1 PLYS. 303 SS. 1/8\"/>
DRIVE PLATE	303 SS. 1/8\"/>
YOKER BRACKET	303 SS. 1/8\"/>
HANDWHEEL	303 SS. 1/8\"/>
PROXIMITY SWITCH ASSY	303 SS. 1/8\"/>
PROXIMITY SWITCH CABLE	303 SS. 1/8\"/>
SCALE	1/2\"/>
DATE	12/15/03
BY	WJL
CHECKED	WJL
APPROVED	WJL
FIGURE	1

RELEASE
 (OF HOLD DOWN ARM)