



502-056-008

SERVICE MANUAL

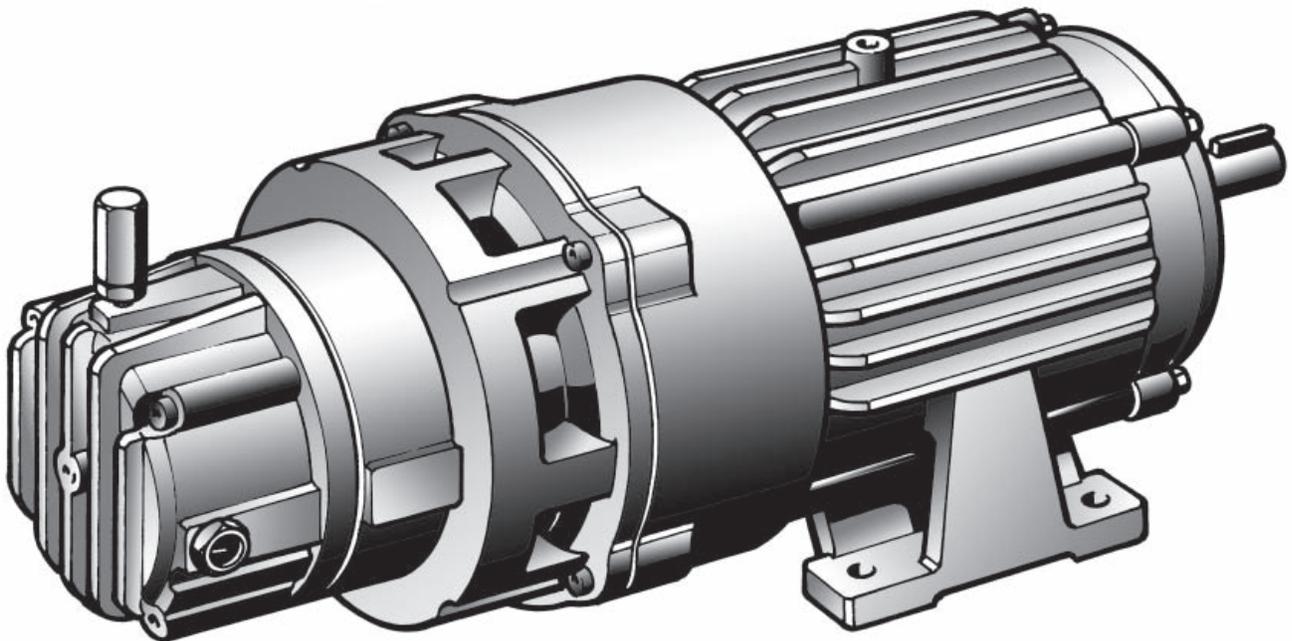
AND

REPAIR PARTS

FOR

Model: MB-056 *Posistop*[®]

MOTOR BRAKE



WARNING - Read this manual before any installation, maintenance and operation.



FORCE CONTROL INDUSTRIES, INC.

MANUFACTURERS OF MECHANICAL AND ELECTRICAL POWER TRANSMISSION EQUIPMENT

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Section 1

DESCRIPTION and OPERATION

1-1 THE OIL SHEAR PRINCIPLE

Conventional clutches and brakes depend on friction between solid surfaces operating in air to transmit torque. Friction does the job, but produces a great amount of heat and wear. The *Posistop* Motor Brake uses the friction surfaces operating in a continually replenished, recirculating supply of oil. The oil molecules tend to cling to each other and to the friction surfaces. As moving and stationary elements are brought together, a thin but positive film of oil is maintained between them, controlled by the clamping pressure and carefully designed grooves in the elements. Torque is transmitted from one element to the other through the viscous shear of the oil film. So long as there is relative motion between the elements, they are protected by the oil, thus greatly reducing wear. The oil also effectively transmits heat away from the friction elements.

A periodic Oil Change is all that is required for normal maintenance.

1-2 DESCRIPTION

Posistop Motor Brakes are multiple surface, spring activated, pneumatic release braking devices that effectively dissipate the heat generated from electric motors that require frequent starting and stopping.

FORCE CONTROL provides 7 Models of *Posistop* Motor Brakes to meet your individual requirements for deceleration torque, thermal dissipation and static torque.

This manual covers the smallest size or Model MB-056. For information on other sizes and models not covered in this manual, contact the Force Control factory or your Force Control representative.

1-3 FEATURES (See Figure 1.1)

1. **Nema-C Standard Flange Mounting**-to any suitable double shaft drive motor.
2. **Collet Locking Element**-for a positive self locking, keyless hub mounting with high torque transmitting capabilities.

Advantages of the collet are:

- **Convenient Easy Mounting** - No press fits or costly machining necessary. Allows use of commercial tolerance motor shafts.
- **Easy Releasing at Disassembly.**
- **Totally Self Centering**

- **Full Shaft Strength** - Since no metal is removed, stress concentrations are avoided permitting shafts to retain their full strength.

3. **Internal Centrifugal Type Oil Pump**-maintains a positive oil film between braking surfaces without external pumping devices.
4. **Multiple Braking Disc Stack**-At the heart of your *Posistop* Motor Brake is a Multiple Braking Disc Stack consisting of Drive Plates, keyed to the end housing and Friction Discs, splined to the drive hub.

As a result, the Torque is distributed along the hub rather than on a single braking surface reducing the heat and wear on each brake disc.

1-4 OPERATION

The *Posistop* Motor Brake Cross Section shown in *Figure 1.1* shows the brake in the normally spring loaded braking position.

Compressed air, controlled by external valving, enters the piston chamber and moves the piston to disengage the Multiple Braking Disc Stack, allowing the drive motor to rotate freely.

When the air pressure is released the piston, which is spring loaded, returns to the normal braking position.

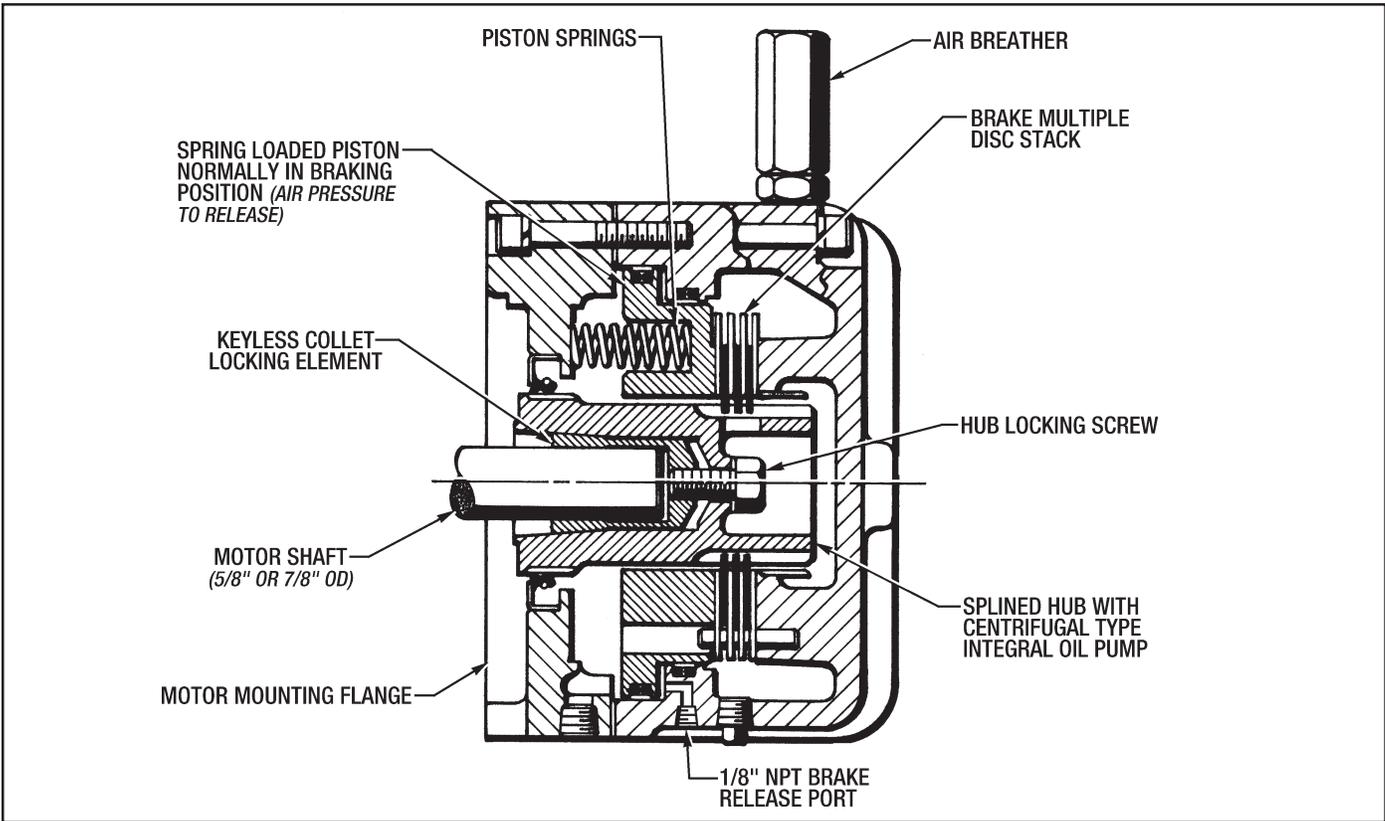


Figure 1.1 - MB-056 Motor Brake Cross Section

Section 2 SPECIFICATIONS

2-1 DIMENSIONAL SPECIFICATIONS

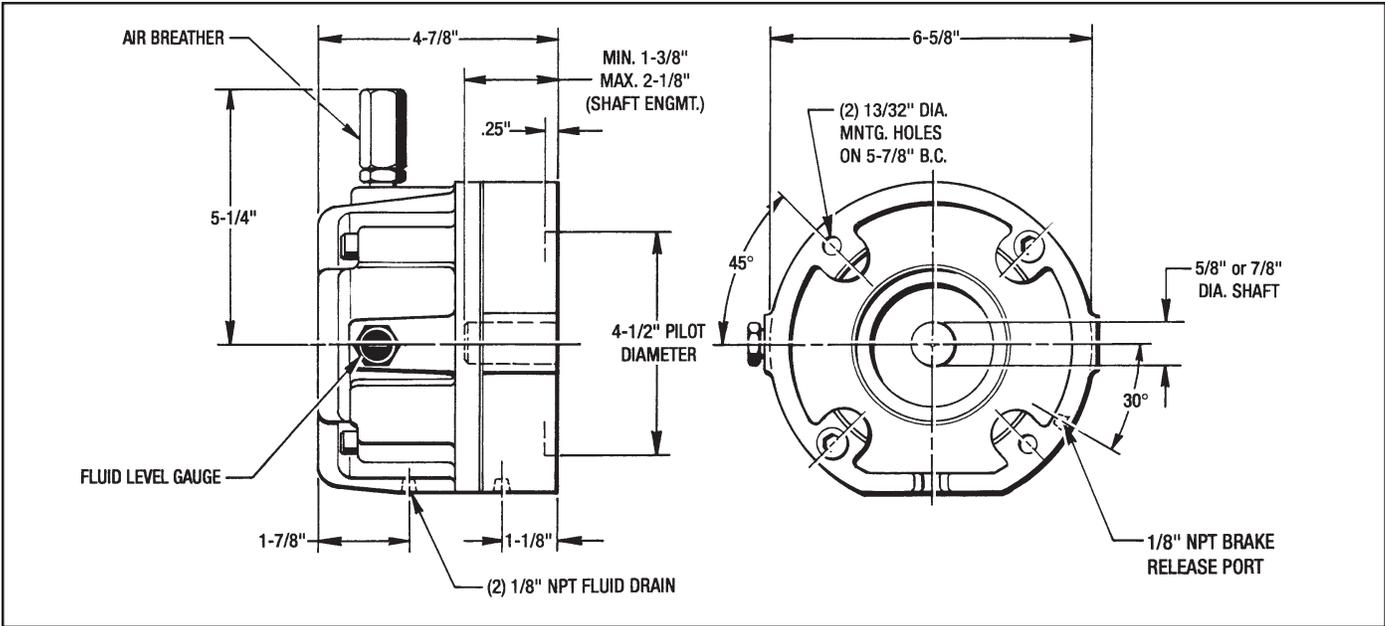


Figure 2.1 - Dimensional Drawing

2-2 OPERATIONAL SPECIFICATIONS

TORQUE CAPACITY

Given below are 5 different Stack Configurations for the Drive Plates (#12), Friction Discs (#13) and Spring (#36).

Different Stack Configurations are used to obtain different Torque Capacity Requirements.

Refer to the Table below for your torque requirements and other related specifications.

See INSTALLATION OF DRIVE PLATES AND FRICTION DISCS located in Section 7 for assembly procedure.

MB-056 MOTOR BRAKE PERFORMANCE SPECIFICATIONS

NOMINAL STATIC TORQUE (Lb. Ft.)	NOMINAL DYNAMIC TORQUE (Lb. Ft.)	TORQUE ASS'Y. CONFIG. (Below)	MIN. PRESS. TO RELEASE (PSI)	CYCLIC WK ² (Lb. Ft. ²)	THERMAL RATING (HP Sec./Min.)	MAX. KE PER ENGMT. W/FULL STACK (Ft. Lbs.)	PISTON VOLUME (Cu. In.)
3	2.6	A	30	.009	30	4650	.5
6	5.2	B	30				
9	7.8	C	30				
12	10.4	D	40				
18	15.6	E	60				

Contact the Force Control factory or your Force Control representative for additional information on different Torque Ratings and Brake Stack Configurations not listed in this manual.

Maximum Speed - 1800 RPM

MOTOR BRAKE STACK CONFIGURATIONS

A	3 Lb. Ft.	B	6 Lb. Ft.	C	9 Lb. Ft.	D	12 Lb. Ft.	E	18 Lb. Ft.
(8) DRIVE PLATES	(6) DRIVE PLATES	(4) DRIVE PLATES							
(1) FRICTION DISC	(2) FRICTION DISCS	(3) FRICTION DISCS							
(3) SPRINGS	(3) SPRINGS	(3) SPRINGS	(4) SPRINGS	(6) SPRINGS					

Section 3 INSTALLATION

IMPORTANT SAFETY PRECAUTIONS

The Brake Unit described in this manual must not be installed in any manner except as specified and must not be operated at speeds, torque loads or temperatures other than those specified. Failure to limit operation of the brake to the conditions specified could damage the unit and may cause malfunction or damage to interconnecting equipment.

WARNING - The following precautions must be taken if the installation of the *Posistop* Motor Brake is to be a retrofit for an existing application. Before attempting installation, open the motor disconnect, shut off the control electrical supply and lock them out to avoid any possibility of personal injury. Be sure any mechanisms holding inclined or vertical loads are locked mechanically with cribbing or other means.

The *Posistop* Motor Brake has been pre-assembled at the factory for ease of shipment and installation.

During installation see *Figure 10.1* for a visual reference of parts.

3-1 VERIFYING MOTOR SPECIFICATIONS

The Motor Manufacturer's Specifications must be verified first to ensure the Motor Brake Oil Seal Reliability. The *Motor Shaft Runout*, *Mounting Face Runout* and the *Motor Shaft to Pilot Diameter Eccentricity* need to be checked with a Dial Indicator as shown in *Figure 3.1*.

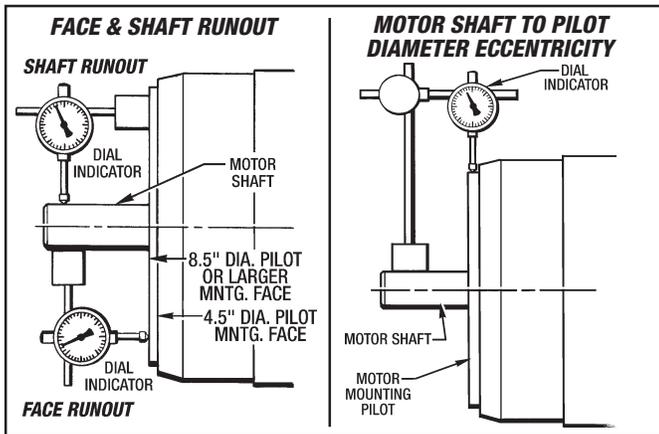


Figure 3.1 - Verifying Motor Specifications

MAXIMUM ALLOWABLE T.I.R. (Inches) (As Per NEMA MG 1 Standard)

Pilot Dia. Dimension	Tolerance on Pilot Dim.		Maximum Allowable Shaft Runout	Maximum Allowable Face Runout	Maximum Allowable Eccentricity
	Plus	Minus			
Less than 12"	.000	.003	.002	.004	.004
12" & Larger	.000	.005	.003	.007	.007

CAUTION - T.I.R. in excess of this maximum will result in a potential leak condition.

3-2 HUB ASSEMBLY TO MOTOR SHAFT

1. First check motor shaft for any nicks or burrs. Clean up and deburr if necessary.
2. Apply a light coating of Vaseline or equivalent to the Wear Sleeve (#86) which is located on the Hub (#2). This will facilitate sliding the Housing (#8) over the Hub (#2) at a later point.

IMPORTANT: Do not lubricate the hub bore or the motor shaft.

3. Insert the Collet (#110) into the Hub (#2) until it is seated. Assemble the Screw (#94) and Copper Gasket (#30) into the Hub and Collet. **Do not tighten at this time.**
4. Slide the Hub Assembly onto the Motor Shaft.

3-3 HUB ALIGNMENT

1. Holding a straight edge across the face of the Hub, measure from the straight edge to the motor mounting face. It should measure 5/16" Adjust if necessary. (See *Figure 3.2*)

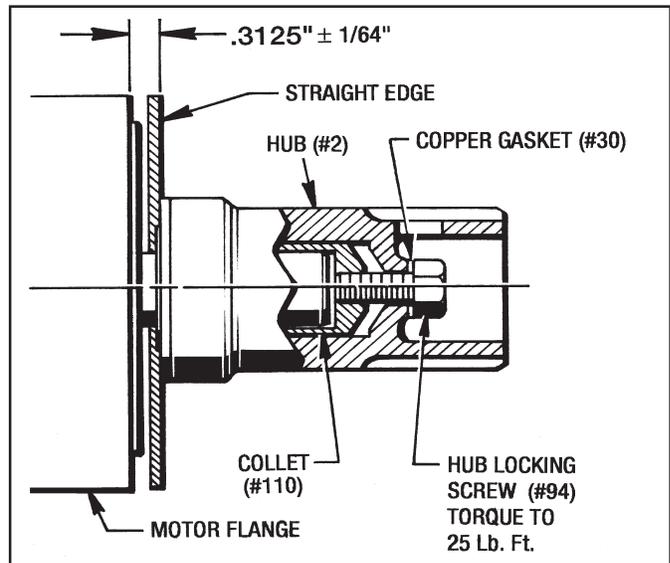


Figure 3.2 - Hub Alignment

2. Back the Screw (#94) out of the Hub and apply a light coat of Loctite (#RC-242) to the screw threads. Reinstall the screw back into the Hub and Collet. Torque to **25 Lb. Ft.** to lock the Hub to the Motor Shaft. **NOTE:** Hub will move further onto motor shaft when screw is torqued.

3-4 ALIGNING TEETH ON FRICTION DISCS (#13)

Check the teeth on the Friction discs (#13) in the Brake Stack to make sure that they are aligned with each other. If they are out of alignment use the following procedure to align the teeth with each other:

1. First set the Brake Assembly on a work bench with the Housing (#8) and Oil Seal (#31) facing up
2. Apply shop air (Do not exceed 80 PSI) to the brake port to release the spring pressure on the Brake Stack.
3. Manually adjust the Friction Discs so the teeth become aligned with each other. **Be careful when reaching in the brake not to damage the Oil Seal (#31).**
4. Disconnect the shop air to the Brake Port.

3-5 INSTALLING BRAKE HOUSING ASSEMBLY

(See Figure 3.3)

This procedure is for the Horizontal Mounting only. See Section 3-5 for Vertical Mounting.

1. Slide the Brake Housing Assembly carefully over the Hub. (See Figure 3.3)

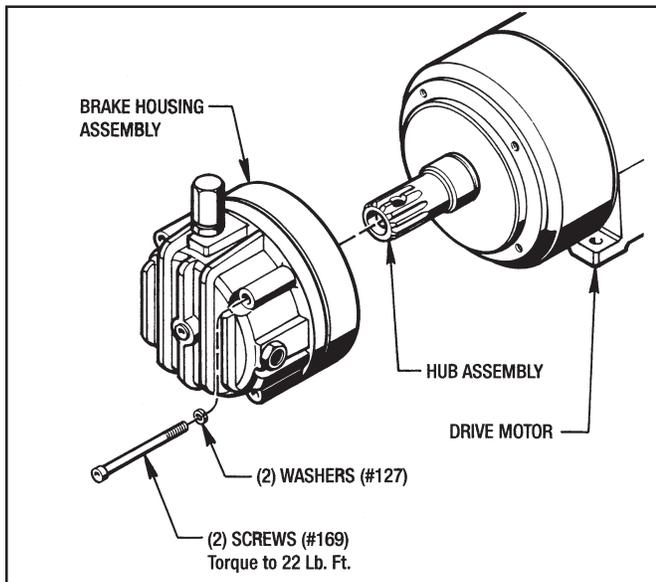


Figure 3.3 - Installing Brake Housing Assembly

CAUTION

Do not support the weight of the Brake on the lip of the Oil Seal (#31) when sliding the Brake onto the Hub (#2). This could damage the Oil Seal and cause premature failure of the Brake.

Also do not force the Brake Stack onto the hub spline. If any resistance is felt, remove the Brake and realign the teeth again, as described in Section 3-3.

2. Install the (2) Screws (#169) and (2) Washers (#127) and Torque to 22 Lb. Ft.

3. Check to see if the Air Breather (#45), Sight Gauge (#46) and all Pipe Plugs are installed tightly.
4. Add Automatic Transmission Fluid (Mobil ATF 210) until the fluid level is in the center of the Sight Gauge.
5. Install appropriate external pneumatic valving. See Page 16 for a typical Pneumatic Schematic.

3-6 VERTICAL MOUNTING INSTRUCTIONS

A. VERTICAL MOUNTING (BRAKE UP)

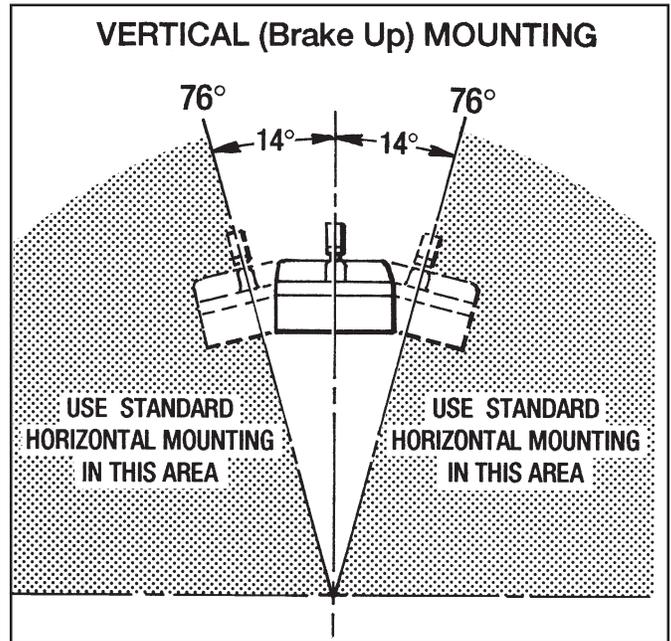


Figure 3.4 - Vertical Mounting (Brake Up)

Converting to a **VERTICAL MOUNTING (Brake Up)** is a simple procedure of just switching the Air Breather and some Pipe Plugs around in the Brake Unit. (See Figure 3.5)

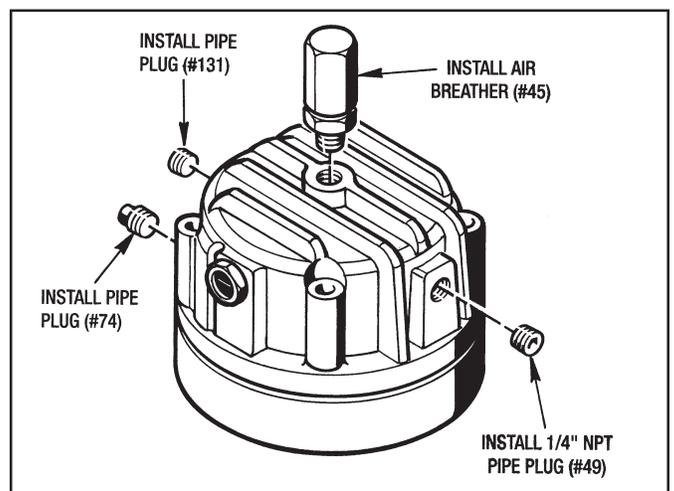


Figure 3.5 - Vertical Mounting Conversion (Brake Up)

The Procedure for Conversion is as follows:

1. First drain all of the oil out of the brake into a suitable container and save or discard as condition warrants.
2. Switch the Air Breather (#45) and the Pipe Plug (#49) around in the End Housing (#9).
3. Switch the 1/8" NPT Pipe Plugs (#74) and (#131) around.

NOTE:

Use pipe sealant with Teflon (59241) on all pipe threads.

4. Refill the Brake Unit with **Mobil ATF-210** Automatic Transmission Fluid to the center of the Sight Gauge (#46).

CAUTION

Do not over fill. This could cause the Brake to overheat and fail prematurely

B. VERTICAL MOUNTING (Brake Down)

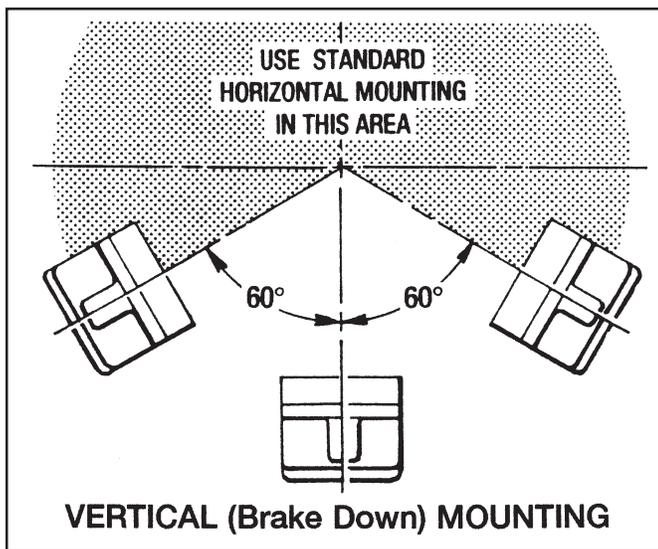


Figure 3.6 - Vertical Mounting (Brake Down)

A Conversion Kit is necessary to convert the MB-056 from a Horizontal Mounting to a **VERTICAL MOUNTING (Brake Down)** installation. This Kit is shown in Figure 3.7.

NOTE:

Use pipe sealant with Teflon (59241) on all pipe threads.

The procedure for conversion is as follows:

1. First drain all of the oil out of the brake into a suitable container and save or discard as condition warrants.
2. Remove the Sight Gauge (#46) from the End Housing (#9) and install a 3/8" NPT Street Elbow (#66), 3/8" NPT x 1-1/2" Lg. Pipe Nipple (#69) and a 3/8" NPT Pipe Cap (#67) back into the hole. This will be the Fluid Fill.

3. Remove the Breather (#45) and install a 1/4" NPT Pipe Plug (#73).
4. Remove 1/8" NPT Pipe Plug (#50) from the side of the housing (#9) and install 1/8" Street Elbow (#245) and 1/8" NPT Pipe Plug (#244).
5. Switch 1/8" NPT Pipe Plug (#50) from the end of Housing (#9) with 1/8" NPT Pipe Plug (#74).
6. Then take out the 1/8" NPT Pipe Plug (#75) from the Housing (#8) and replace it with the Breather (#44).
7. Remove the Pipe Plug (#244) and the Pipe Cap (#67) and fill with **Mobil ATF-210** Automatic Transmission Fluid until it starts to run out of the Street Elbow (#245). Replace the Pipe Plug and Pipe Plug when full.

CAUTION

Do not over fill. This could cause the Brake to overheat and fail prematurely

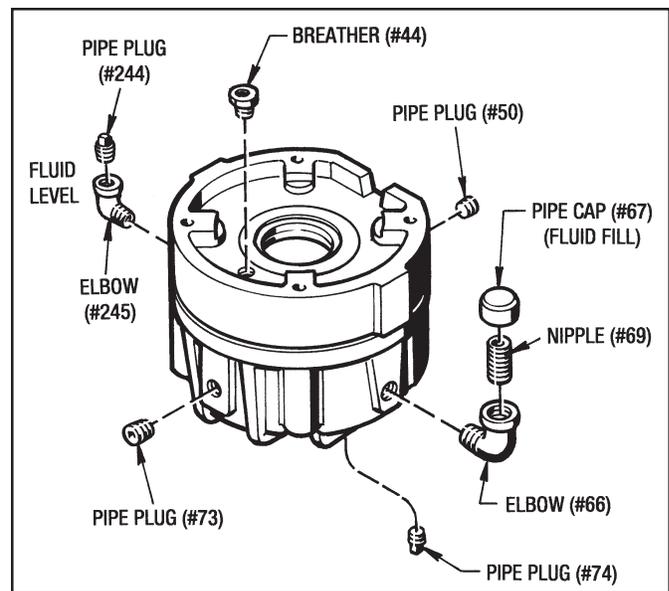


Figure 3.7 - Vertical Mounting Kit (Brake Down)

Section 4 LUBRICATION

4-1 CHECKING THE OIL LEVEL

Check the oil level when the drive is installed and weekly thereafter (until experience dictates otherwise). Always check the oil level with the unit stationary (not running).

NOTE:

Oil Gauge (#46) and Pipe Plug (#49) may be reversed so that level is visible from other side

4-2 CHANGING THE OIL

Every twelve (12) months remove Drain Plug (#74) and (#131) at the bottom of the End Housing (#9) and Housing (#8). Drain all oil before refilling. More frequent oil change may be required on high kinetic energy applications or in extremely dirty environments.

Check the Oil Sight Gauge (#46) for dirt. Remove and clean if necessary. Replace the drain plugs. Refill unit with clean oil up to the center of the sight gauge. **The capacity of your MB-056 Motor Brake is 6 ounces of oil.**

CAUTION

Do not over fill with oil. Excess oil will cause the unit to overheat

4-3 TYPE OF OIL

Use Automatic Transmission Fluid, Mobil ATF-210 (type F) only.

Section 5 OPERATIONAL CHECKS

WARNING

Make Operational Checks only when the drive motor and motor brake are not in operation. Open motor disconnect and lock it out to avoid personal injury.

5-1 OPERATIONAL CHECKS

1. Make provisions for manual operation if automatic controls are used.
2. Remove Air Breather (#45) from End Housing (#9). **Do not remove this Air Breather while the motor is operating.**

3. Apply air pressure to the brake (See Torque Specification Chart for correct air pressure) and observe the action of the piston through the air breather port. If the piston action is irregular, or if it tends to stick or bind, internal damage may be indicated.

Listen and look for air bubbles in the oil which would indicate piston leakage. If the piston moves slowly and leaks are evident, the piston seals may be damaged.

4. Exhaust the air pressure and observe that the piston returns quickly and smoothly back to the normal braking position.
5. Reinstall the Breather (#45) back into the End Housing (#9).

Section 6 TROUBLESHOOTING

6-1 TROUBLESHOOTING CHART

TROUBLE	POSSIBLE CAUSE	REMEDY
A. Brake fails to engage properly.	<p>Piston sticking or binding.</p> <p>Weak or broken spring.</p> <p>Air pressure not exhausting or slow in exhausting.</p>	<p>Disassemble to the extent necessary and inspect for damaged parts.</p> <p>Replace as needed.</p> <p>Check air regulator valve and replace if necessary.</p>
B. Brake engages too quickly.	Low oil level.	Check oil level and correct.
C. Noise and vibration.	Improper or loose mounting on motor.	Check mounting and correct. If partial disassembly is required, refer to Installation Section.
D. Brake fails to disengage properly.	<p>Low air pressure.</p> <p>Piston sticking or binding.</p> <p>Air regulator valve not functioning properly.</p>	<p>Increase pressure (<i>See Table 2.2</i>).</p> <p>Disassemble to the extent necessary and inspect for damaged parts.</p> <p>Check valve operation and replace if necessary.</p>
E. Unit overheats. (Temperature over 225 °F).	<p>Brake not engaging or disengaging properly causing excessive slippage.</p> <p>Improper oil level.</p>	<p>Refer to troubles A and D.</p> <p>Check level and add or drain as necessary.</p>
F. Oil leakage.	<p>Lip seal damaged.</p> <p>O-ring seals.</p>	<p>Check for oil leaking around the shaft. Replace if necessary.</p> <p>Tighten all external bolts.</p>
G. Oil leakage at breather.	<p>Damaged seal around piston.</p> <p>Oil level too high.</p>	<p>Disassemble and replace.</p> <p>Drain excess oil.</p>
H. Brake does not repeat.	<p>Air pressure changed.</p> <p>* Oil temperature changed.</p>	<p>Check and adjust air pressure.</p> <p>Check temperature.</p>

* **NOTE** - For installations requiring precise starting and stopping, operating temperatures are important. Operating temperatures between 116° F and 165 ° F are recommended.

Section 7

REPAIR

7-1 GENERAL INFORMATION

Unless the brake is to be completely overhauled, it should be disassembled only to the extent necessary to gain access to the worn or damaged parts.

7-2 CLEANING AND INSPECTION

Clean metal parts in a suitable solvent and dry with low pressure compressed air. Clean drive plates and friction discs one at a time, keeping parts in the same order as they were when removed. After cleaning, inspect parts for cracks, distortion, scoring, nicks, burrs or any other damage that would affect the operation of the brake.

Pay particular attention to the following:

1. Check the friction discs for wear, surfaces for scoring, galling or evidence of uneven wear.
2. Check the brake drive plates for scoring or galling. Make sure they are flat. If a perceptible ridge is worn in the drive plate where it mates with the friction disc, it should be replaced.
3. Carefully check the piston and bore surfaces for nicks, scratches, scoring or other damage which would affect operation or cause leakage.
4. Pay particular attention to the Wear Ring (#86) and Oil Seal (#31), checking for any nicks, scratches or any damage that would cause leakage.

WARNING

Petroleum based cleaning solvents are extremely flammable. Open flames or smoking by any personnel in the vicinity of these solvents is extremely hazardous and MUST NOT BE PERMITTED.

7-3 REPAIR OR REPLACEMENT

A fine stone or crocus cloth may be used to remove minor surface defects from parts, if the operation or sealing action of the part is not affected. The use of coarser abrasives or other machining methods should not be attempted. Otherwise, damaged parts should be replaced.

Replacement is recommended for the following parts when needed.

1. Replace all Gaskets, O-rings, Liners Springs and Oil Seals removed during disassembly.

2. Replace Friction Discs and Drive Plates as a complete set.

7-4 BRAKE DISASSEMBLY

(Refer to Figure 10.1)

1. Remove the (2) Motor Mounting Screws (#169) and (2) Washers (#127) from the Brake End Housing (#9) and carefully pull the Brake Assembly off of the Hub (#2) and the Drive Motor. **Be careful not to damage the lip of Oil Seal (#31) when doing so.**
2. Evenly back out (2) Screws (#152) and remove them along with the (2) Washers (#128).

CAUTION

The Brake Subassembly is under spring pressure so care must be taken to avoid personal injury when removing these screws.

3. Separate the Housings (#8) and (#9) and remove Gasket (#122). Discard the Gasket.
4. Check the Oil Seal (#31) in the Housing (#8) and replace if necessary. It will have to be removed with an Arbor Press.
5. Remove the Springs (#36) from the Piston (#3). (The quantity of springs are predetermined at the factory for your Brake Torque Requirements.) When removing these springs, if all of the holes are not used, it would be helpful for you to make a freehand sketch locating the position of the springs. This will help at reassembly.
6. Apply shop air to the brake port to pop out the Piston (#3). Lift the Piston out of the Brake Housing (#9) and remove the Teflon Liner (#43) and (2) O-Rings (#40). Check them and replace if necessary.
7. The Brake Stack can now be removed for inspection and/or replacement.
8. Remove Liner (#42) and O-Rings (#39) from the End Housing (#9) for inspection and replacement if necessary.

There is a Wear Sleeve (#86) located in the End Housing (#9). This Sleeve is used to aid in proper oil distribution through the Brake Stack.

9. Check the Wear Sleeve (#86) for damage and if replacement is necessary, use a small chisel to remove it from the housing bore.

7-5 HUB and COLLET REMOVAL

(See Figure 8.1)

1. Place a 1/2" socket wrench over the head of Screw (#94) and at the same time insert a large screw driver into the hub pump opening. Remove the Screw (#94) and Copper Gasket (#30) using the screw driver to hold the Hub (#2) in place on the motor shaft. (See Figure 7.1)

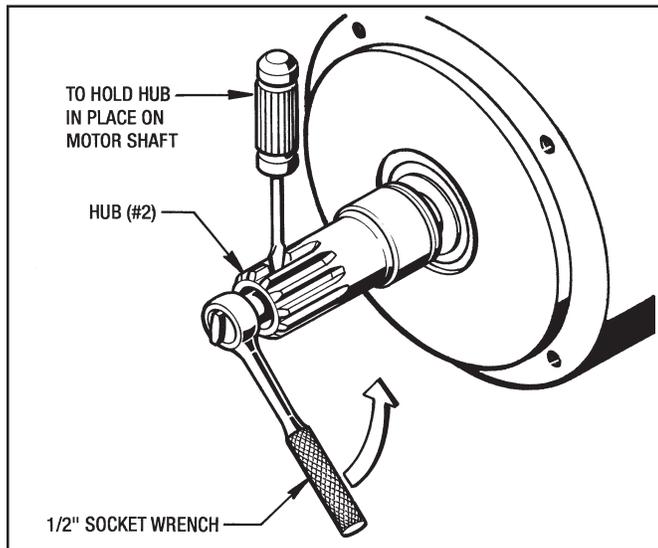


Figure 7.1 - Removing Screw (#94)

2. Install a 3/8"-16 x 1/2" Lg. Soc. Set Screw into the Collet (#110). Then screw a 1/2"-13 Bolt into the Hub (#2) until it contacts the Set Screw. Continue turning the 1/2" bolt until the Hub (#2) is forced off of the Collet (#110). The Collet can now be removed from the motor shaft by hand. (See Figure 7.2)

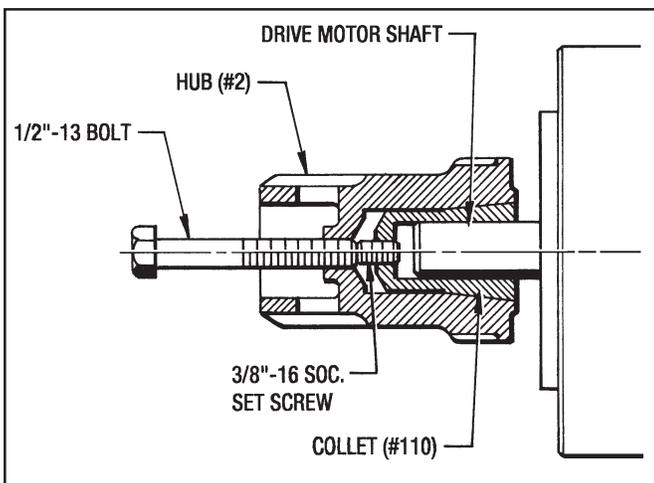


Figure 7.2 - Removing Hub and Collet

3. Check the Wear Sleeve (#86) on the Hub (#2). If replacement is necessary use a chisel the same width as the Wear Sleeve and make about (6) or (8) notches in the sleeve. The Wear Sleeve (#86) can now be removed by hand. (See Figure 7.3)

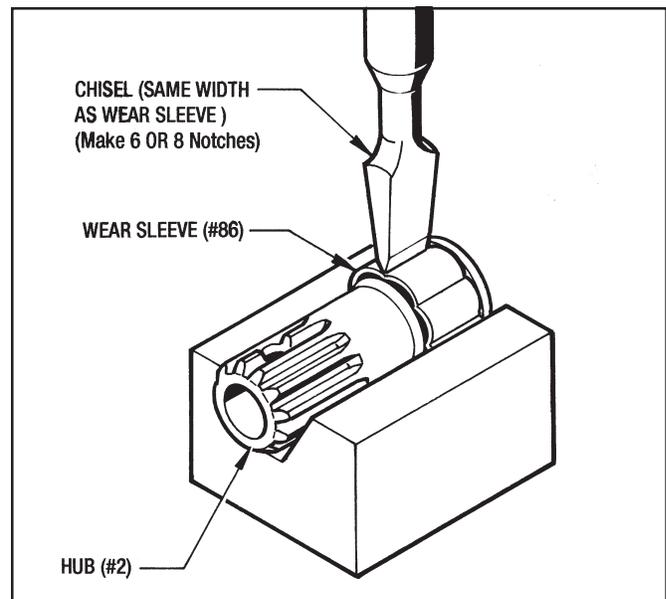


Figure 7.3 - Removing Wear Sleeve (#86)

7-6 GENERAL REASSEMBLY INSTRUCTIONS

Note the following general reassembly instructions as applicable:

1. Lubricate O-rings, liners and the lip of the oil seal with a light coating of Vaseline or equivalent immediately before reassembly and installation of mating parts.
2. External O-ring liners will be easier to install if heated in an oven to approx. 200 ° F max.
3. The installation of press-fitted parts can also be made easier by heating the outside part in an oven.

CAUTION

Use suitable gloves when handling heated parts.

4. Immediately before assembly, thoroughly clean screw threads with Loctite Safety Solvent. At assembly apply (Loctite 242), or equivalent, to all screw threads. Use this adhesive sparingly and wipe off any excess.

7-7 INSTALLING HUB and COLLET ON MOTOR SHAFT

1. If the Wear Sleeve (#86) was removed during Disassembly then a new Wear Sleeve will have to be pressed on the Hub (#2) with an Arbor Press using appropriate tooling. (See Figure 7.4)
2. Use the same procedure as described in **Section 3-1 HUB ASSEMBLY TO MOTOR SHAFT** and **3-2 HUB ALIGNMENT** to install and align the Hub (#2) and Collet (#110) on to the motor shaft.

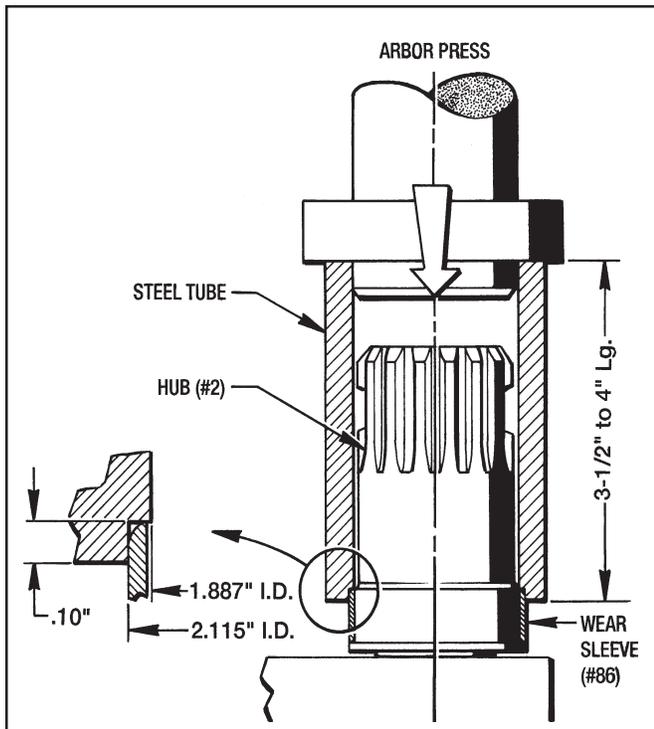


Figure 7.4 - Installing Wear Sleeve(#86)

7-8 BRAKE REASSEMBLY

(See Figure 8.1)

1. If the Wear sleeve (#86) was removed during disassembly then a new Wear Sleeve will have to be pressed into the End Housing (#9) with an Arbor Press.
2. Lubricate the (2) O-Rings (#39) and Teflon Liner (#42) with a light coating of vaseline and install them into the End Housing (#9).
3. Lubricate the (2) O-Rings (#40) and the Liner (#43) with a light coating of vaseline and install them on to the Piston (#3).
4. Position the End Housing (#9) face up and place the Brake Stack into the Housing, aligning the (4) holes in each Drive Plate (#12) with the (4) Pins (#157) in the Housing. See **Section 2 SPECIFICATIONS** for "Brake Stack Configurations" for your proper Torque Requirements.
Also align the spline teeth in the Friction Discs (#13) with each other.
5. Place the Piston Assembly into the End Housing.
6. Replace the Springs (#36) back into the Piston (#3). Refer to the sketch that was made at disassembly for proper spring placement.
7. If the Oil Seal (#31) was removed during disassembly then it will have to be pressed into Housing (#8) with an Arbor Press. First, place a light coating of Sealant (Permatex #30) into the housing bore.

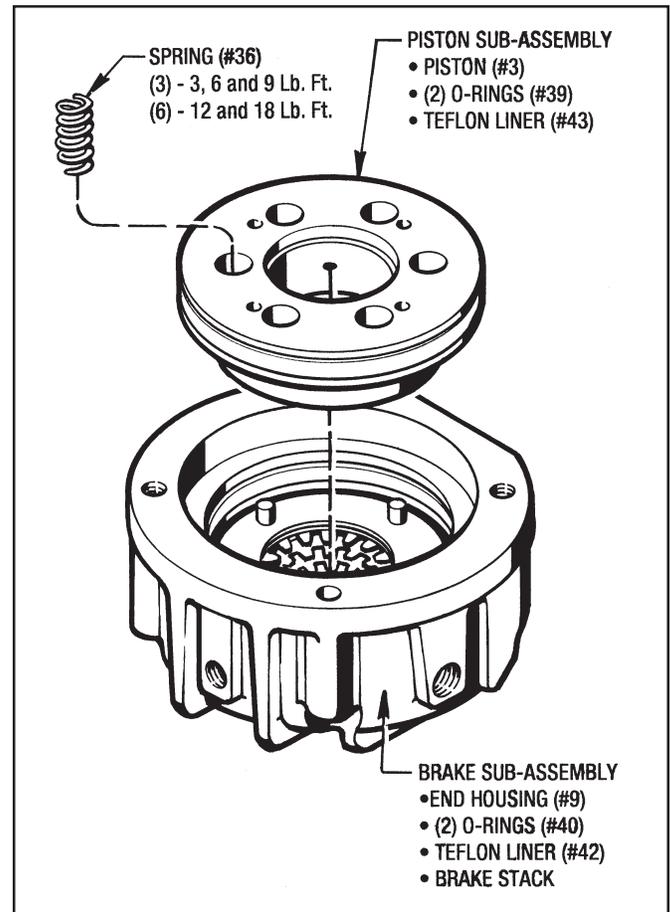


Figure 7.5 - Brake Reassembly

8. Place the Gasket (#122) onto the housing face and attach the Housing (#8) with (2) Screws (#152) and (2) Washers (#128).

IMPORTANT

Attach these (2) Screws (#152) in an even manner to compress the Springs (#36) properly.

9. Reinstall any Pipe Plugs, Sight Gauge (#46) and Breather (#45) that may have been removed during disassembly.
10. Use the same procedure as described in **Section 3-3 ALIGNING TEETH ON FRICTION DISCS (#13)** and **3-4 INSTALLING BRAKE HOUSING ASSEMBLY** to mount the Brake Assembly to the motor Shaft.

Section 8

ORDERING REPAIR PARTS

8-1 GENERAL INFORMATION

This section lists, describes and illustrates all available repair parts for the Force Control MB 056 *Posistop* Motor Brake.

Parts are identified on the exploded view drawing (*Figure 8.1*) with Reference Numbers. These numbers are the same as used in the parts listing.

8-2 ORDERING REPAIR PARTS

When ordering any repair parts, please specify all of the following information:

1. COMPLETE MODEL NUMBER (On Name plate).
2. SERIAL NUMBER (On Name plate).
3. PART REFERENCE NUMBER (From Parts List and Exploded View Drawing).
4. PART NAME (From Parts List).
5. QUANTITY (As Required).
6. COMPLETE SHIPPING INFORMATION

IMPORTANT

Failure to include all of the specified information will only delay your parts order. Unless another method is specified for Shipping Information, parts weighing less than 150 lbs. will be shipped United Parcel Service. Parts weighing over 150 lbs. will be shipped Motor Freight. Air freight and other transportation services are available but only if specified on your order.

8-3 FACTORY REBUILD SERVICE

Reconditioning Service is offered by Force Control Industries at the factory. Before returning a unit for this service, be sure to first contact the Service Sales Department at Force Control Industries for authorization and shipping instructions. Force Control cannot be responsible for any units returned to the factory without prior notice and authorization.

Care must be given to the packaging of returned units. Always protect mounting feet and flanges by attaching to a suitable skid. Shipment-damaged units always delay repairs. It usually impossible to recover damage costs from the carrier. Whenever possible describe the problems you are having with your motor brake on your shipping papers.

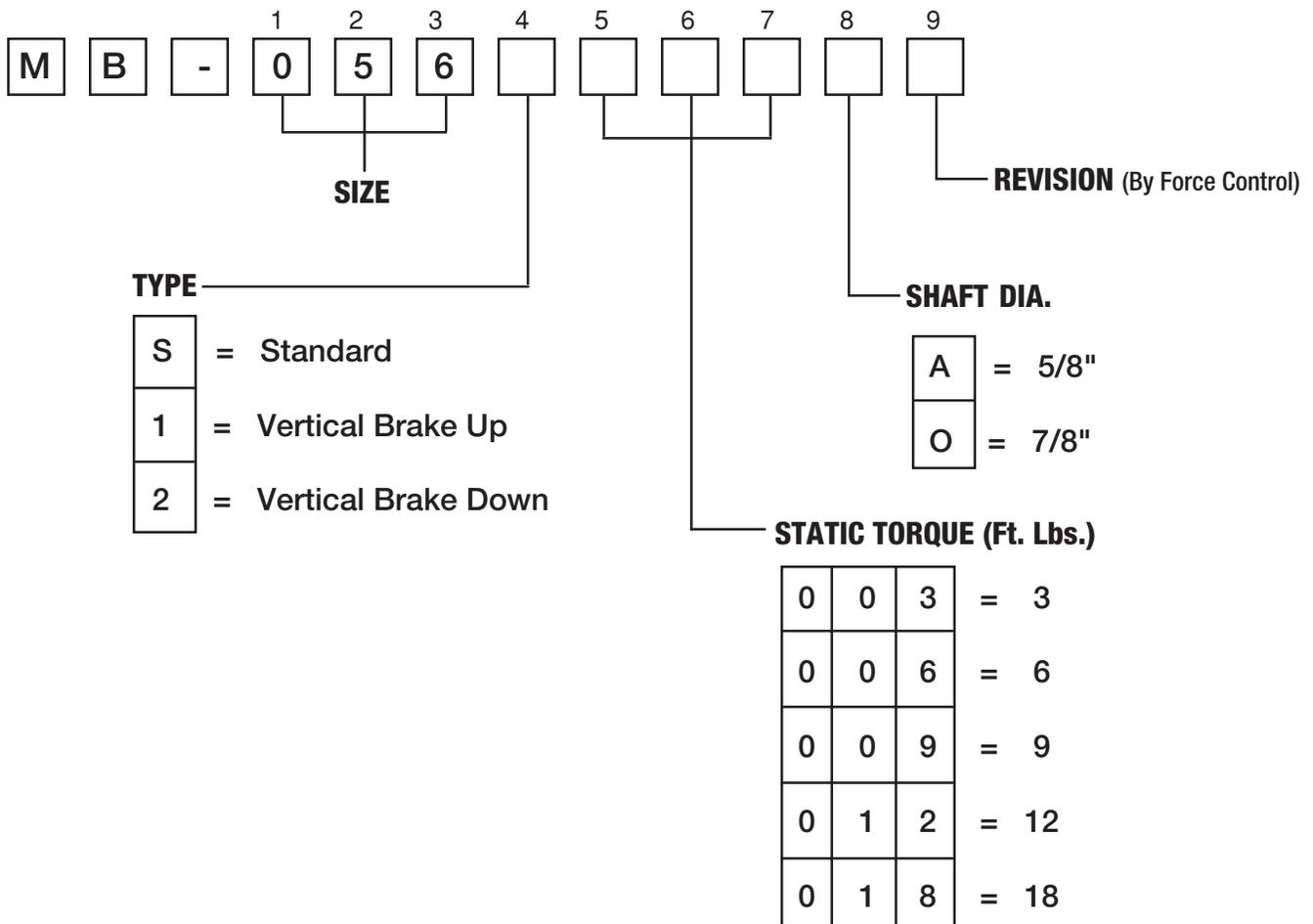
Return to: **Force Control Industries, Inc.**
3660 Dixie Highway
Fairfield, Ohio 45014
Telephone: 513-868-0900
Fax: 513-868-2105
E-Mail: info@forcecontrol.com

8-4 NAME PLATE INFORMATION

(This Name Plate is located on the Brake Housing.)

	Force Control Industries, Inc. Fairfield, Ohio For Service / Parts Call: 513-868-0900	
	Posistop® Brake	Model No. <input style="width: 100%;" type="text"/>
Use Mobil® ATF 210		Serial No. <input style="width: 100%;" type="text"/>

8-5 MB-056 Posistop STANDARD MODEL NUMBERS



Repair Parts

MB-056 *Posistop* MOTOR BRAKE

Ref. No.	Part Name	Qty.	Ref. No.	Part Name	Qty
Δ2	Hub	1	*42	Liner	1
3	Piston	1	*43	Liner	1
8	Housing	1	*45	Air Breather	1
9	End Housing	1	*46	Sight Gauge	1
*12	Drive Plate		49	Pipe Plug, 1/4" NPT	1
	3 Lb. Ft. Torque	8	50	Pipe Plug, 1/8" NPT	2
	6 and 12 Lb. Ft. Torque	6	53	Heli-Coil	2
	9 and 18 Lb. Ft. Torque	4	74	Sq. Hd. Pipe Plug, 1/8" NPT	1
*13	Friction Disc		75	Pipe Plug, 1/8" NPT	1
	3 Lb. Ft. Torque	1	Δ*86	Wear Sleeve	2
	6 and 12 Lb. Ft. Torque	2	Δ94	Hub Locking Screw	1
	9 and 18 Lb. Ft. Torque	3	Δ110	Collet	1
Δ*30	Copper Gasket	1	*122	Gasket	1
*31	Oil Seal	1	127	Lockwasher	4
*36	Spring		128	Lockwasher	2
	3, 6 and 9 Lb. Ft. Torque	3	131	Pipe Plug, 1/8" NPT	1
	12 and 18 Lb. Ft. Torque	6	152	Soc. Hd. Cap Screw	2
*39	O-Ring	2	157	Dowel Pin	4
*40	O-Ring	2	169	Soc. Hd. Cap Screw	2

* - Indicates Parts in Major Overhaul Kit.

Δ - Indicates Parts in Hub Kit.

MB-056 MOTOR BRAKE ASSEMBLY

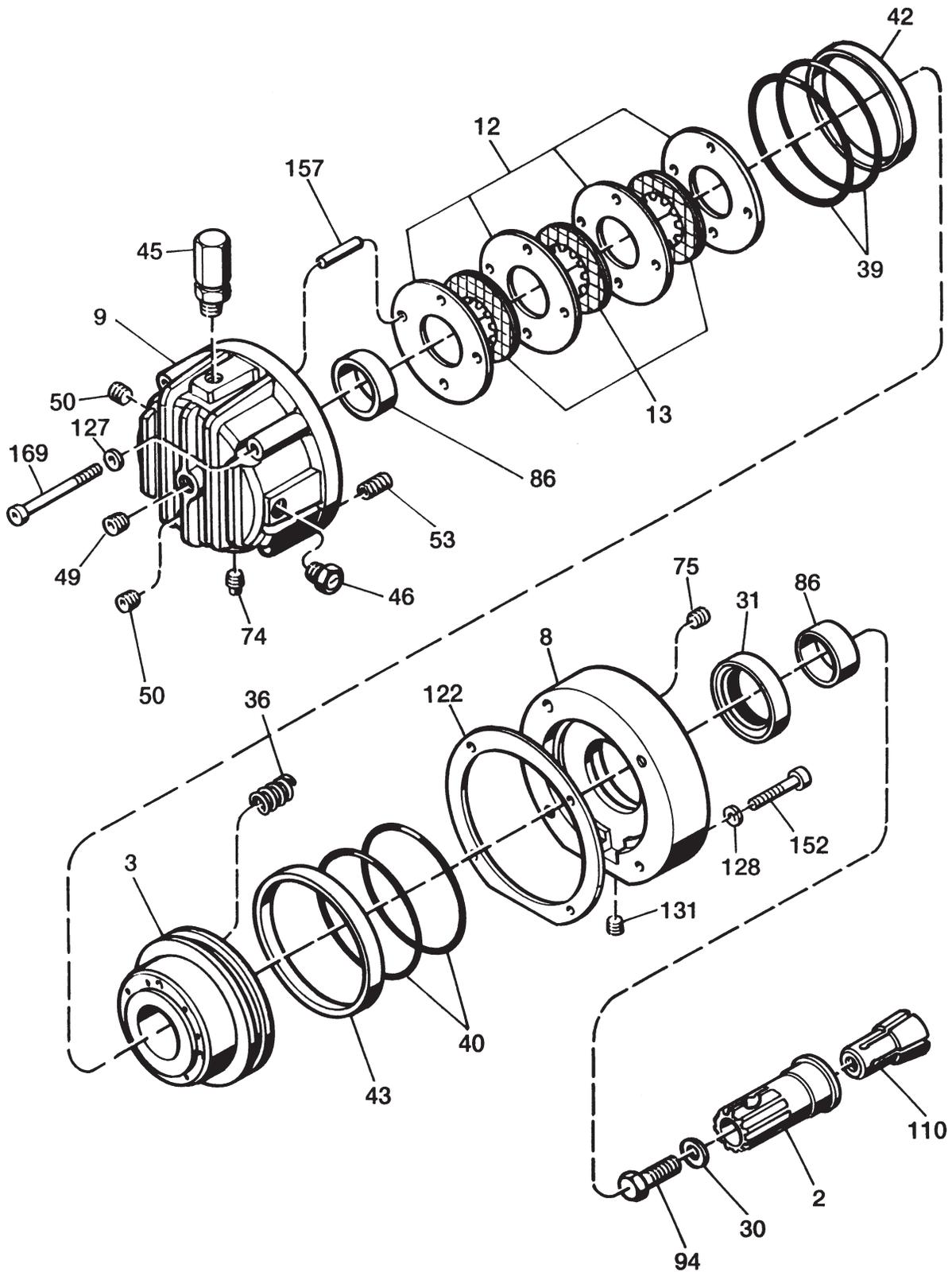
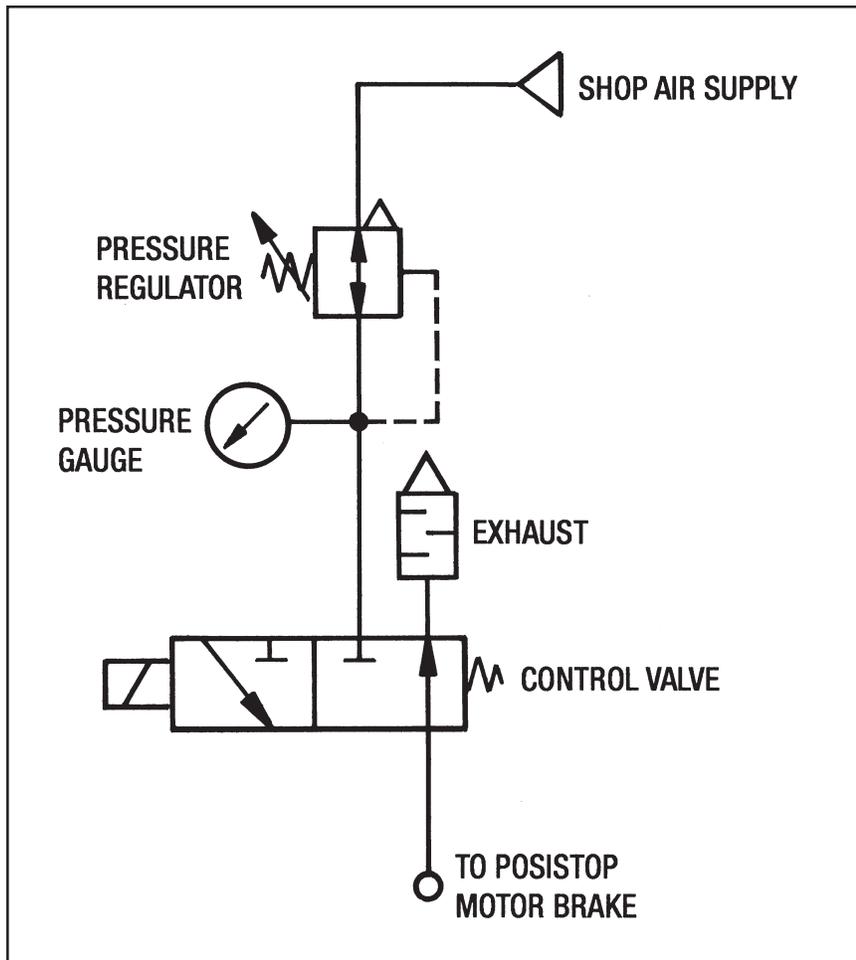


Figure 8.1 - MB-056 Motor Brake Assembly

TYPICAL PNEUMATIC CONTROL SYSTEM



The above schematic illustrates a typical Pneumatic Control Schematic for a MB-056 Posistop Motor Brake. Valving to be 1/8" NPT minimum and located as close to the brake as possible.

See Torque Specifications in Section 2 for Brake Release Pressure.

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