Hydraulic Remote Actuators

hydraulically operated, hand control operated, pedal operated, and mechanically operated
Why choose MICO?

MICO, Inc. designs, manufactures and markets hydraulic components, controls, and brake systems primarily for off-road markets. We have manufacturing facilities in:

- North Mankato, Minnesota U.S.A.
- Ontario, California U.S.A.
- Empalme, Sonora, Mexico

Many of the world’s largest off-highway OEMs value the knowledgeable staff at MICO and work with us to make their products better. Our custom-engineered products are designed with the customer requirements as the primary driver. It is our intent to help customers build their systems with our expertise in hydraulic components, braking systems and controls.

Our goal is to meet or exceed our customers’ expectations in every aspect of our business.

Product lines we specialize in include:

- Actuators
- Brake Locks
- Brakes
- Controls
- Cylinders
- Electrohydraulics
- Master Cylinders
- Valves

MICO is proud to be ISO 9001 and ISO 14001 certified and continuously strive for improvement while remaining a quality leader in our field. We have been a successful business for over 60 years. Privately owned, customer driven. We look forward to working with you!

Hydraulic Remote Actuators

MICO® Remote Actuators are designed with the same quality and dependability that goes into every MICO Braking System Product. This is an important consideration when you select any brake system component.

There are several functions the various types of MICO® Remote Actuators are designed to perform.

- Hydraulic remote actuators prevent the transfer of fluid from one system to another system when used with two master cylinders.
- Hand operated remote actuators also prevent fluid transfer between systems, but can be used as the master cylinder, or prime mover as well.
- Pedal operated actuators perform the same functions as the hand operated actuators, except the operator controls these units by foot.
- Mechanically operated actuators allow you to mount your own pedal or lever arrangement to meet the specific needs of your application.

MICO® Pressure Intensifiers are ideal for applications where a low pressure source is available and a small displacement of high pressure hydraulic fluid is required.

System fluids other than DOT 3, 4, 5, or 5.1 brake fluid or mineral based hydraulic oils may require special seals. Consult MICO, Inc. for recommendations.

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### Applications

- **Forestry Equipment**
- **Agricultural Equipment**
- **Heavy Construction Equipment**
- **Swing Drive Equipment**
- **Mining Equipment**
- **In-Plant & Warehouse Equipment**
- **Airport Support Vehicles**
**DESCRIPTION**

The MICO® Remote Actuators presented in this section are actuated by a remote hydraulic pressure source such as a master cylinder.

When hydraulic pressure is developed by the primary source, pressurized fluid forces the piston assembly in the remote actuator forward. When the stem seals against the rubber seat, a positive check is established at the secondary port. From that point, output pressure and volume are equal to the input pressure and volume. Since the bores are of the same diameter, input pressure will be the same as output pressure except when moving the piston. The spring preload must be overcome by the primary pressure source.

When energizing the system from the secondary pressure source, the pressure and volume at the outlet port will equal input pressure and volume, less the stem clearance.

**FEATURES**

- Back to back cups prevent transfer of fluid from one system to the other
- Standard porting for easy tubing connections
- Available with seals for DOT 3, 4, 5 and 5.1 brake fluid or mineral base hydraulic oil
Hydraulic Remote Actuators

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Bore Diameter</th>
<th>Total Stroke</th>
<th>Effective Stroke</th>
<th>Output Effective Displacement</th>
<th>Remote Actuating Displacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-460-046</td>
<td>BF</td>
<td>1.50 in</td>
<td>1.05 in</td>
<td>0.96 in</td>
<td>1.69 in³</td>
<td>1.85 in³</td>
</tr>
<tr>
<td>03-460-090</td>
<td>HO</td>
<td>1.50 in</td>
<td>1.05 in</td>
<td>0.96 in</td>
<td>1.69 in³</td>
<td>1.85 in³</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil  BF = DOT 3, 4, 5 and 5.1 brake fluid.

Dimensions may vary slightly by model number.
Hydraulic Remote Actuators

Hydraulically Operated

Dimensions may vary slightly by model number.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Bore Diameter</th>
<th>Total Stroke</th>
<th>Effective Stroke</th>
<th>Output Effective Displacement</th>
<th>Remote Actuating Displacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-460-051</td>
<td>BF</td>
<td>1.50 in</td>
<td>2.12 in</td>
<td>2.0 in</td>
<td>3.5 in³</td>
<td>3.74 in³</td>
</tr>
<tr>
<td>02-460-052</td>
<td>HO</td>
<td>1.50 in</td>
<td>2.12 in</td>
<td>2.0 in</td>
<td>3.5 in³</td>
<td>3.74 in³</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil
BF = DOT 3, 4, 5 and 5.1 brake fluid.
Hydraulic Remote Actuators
(hydraulically operated)

DESCRIPTION
MICO® Actuators of this type are mechanical devices that link the vehicle's hydraulics with the brake system. The single actuators are used for connecting to a brake line controlled by a single input and the dual actuators are used for connecting to two brake lines controlled by a single input. Actuators are available in two different bore sizes and are capable of displacing 1.77 in³ and 2.89 in³ per side.

See page 25 for Fluid Reservoirs.

FEATURES
- Dual actuators support two separate fluid lines
- All actuators have SAE #4 o-ring ports
- Actuator pistons are hard coat anodized aluminum
- Heavy duty return springs are an advantage in "inching" applications
- Bleeders and/or brackets can be repositioned
- Reservoir can be remotely mounted for easy accessibility, see page 25

Typical System Schematics

Actuator override for two remote positions

Three position actuator override

Clutch and inching

Single system split
Hydraulic Remote Actuators

Hydraulically Operated

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Description</th>
<th>Bore Diameter</th>
<th>Effective Stroke</th>
<th>Effective Displacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-460-013</td>
<td>BF</td>
<td>Single</td>
<td>1.750 in</td>
<td>1.20 in</td>
<td>2.89 in³</td>
</tr>
<tr>
<td>20-460-014</td>
<td>HO</td>
<td>Single</td>
<td>1.750 in</td>
<td>1.20 in</td>
<td>2.89 in³</td>
</tr>
<tr>
<td>20-460-018</td>
<td>BF</td>
<td>Single</td>
<td>1.250 in</td>
<td>1.43 in</td>
<td>1.77 in³</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil  BF = DOT 3, 4, 5 and 5.1 brake fluid.

Dimensions may vary slightly by model number.
Hydraulic Remote Actuators

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Description</th>
<th>Bore Diameter</th>
<th>Effective Stroke</th>
<th>Effective Displacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-460-012</td>
<td>BF</td>
<td>Dual</td>
<td>1.750 in</td>
<td>1.20 in</td>
<td>2.89 in³</td>
</tr>
<tr>
<td>20-460-015</td>
<td>HO</td>
<td>Dual</td>
<td>1.750 in</td>
<td>1.20 in</td>
<td>2.89 in³</td>
</tr>
<tr>
<td>20-460-017</td>
<td>BF</td>
<td>Dual</td>
<td>1.250 in</td>
<td>1.43 in</td>
<td>1.77 in³</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil  BF = DOT 3, 4, 5 and 5.1 brake fluid.

Hydraulically Operated

Dual Actuator (1 1/4 inch diameter bore)

Dual Actuator (1 3/4 inch diameter bore)

Dimensions may vary slightly by model number.
Hydraulic Remote Actuators
(hand control operated)

DESCRIPTION

MICO® Remote Actuators of this type are actuated by a force exerted on the push rod by various types of hand controls.

Initial application pressure moves the floating piston assembly forward. This action seals off fluid flow from the reservoir.

Further application builds up pressure and forces fluid out of the outlet port to the brake or clutch.

When application pressure is released, the floating piston assembly is forced back by the return spring.

See page 25 for Fluid Reservoirs.

FEATURES

- Rugged heavy duty construction
- Reservoir can be remotely mounted for easy accessibility, see page 25
- Available with seals for DOT 3, 4, 5 and 5.1 brake fluid or mineral base hydraulic oil
- Some models feature a ratchet type lock/release mechanism in the handle

Typical System Schematics

Single Actuator

Two Actuators
Hydraulic Remote Actuators

Hand Control Operated

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Bore Diameter</th>
<th>Total Stroke</th>
<th>Effective Stroke</th>
<th>Effective Displacement</th>
<th>Actuator Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-460-093</td>
<td>BF</td>
<td>1.125 in</td>
<td>1.25 in</td>
<td>1.19 in</td>
<td>1.18 in³</td>
<td>20-080-075</td>
</tr>
<tr>
<td>03-460-028</td>
<td>HO</td>
<td>1.125 in</td>
<td>1.25 in</td>
<td>1.19 in</td>
<td>1.18 in³</td>
<td>20-080-076</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil  BF = DOT 3, 4, 5 and 5.1 brake fluid.

Dimensions may vary slightly by model number.

Non-ratchet lever type handle

100 lb maximum handle force at 875 maximum outlet pressure
Hydraulic Remote Actuators

Hand Control Operated

Dimensions may vary slightly by model number.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Bore Diameter</th>
<th>Total Stroke</th>
<th>Effective Stroke</th>
<th>Effective Displacement</th>
<th>Actuator Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-460-147</td>
<td>BF</td>
<td>1.125 in</td>
<td>1.25 in</td>
<td>1.19 in</td>
<td>1.18 in³</td>
<td>None</td>
</tr>
<tr>
<td>02-460-148</td>
<td>HO</td>
<td>1.125 in</td>
<td>1.25 in</td>
<td>1.19 in</td>
<td>1.18 in³</td>
<td>None</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil   BF = DOT 3, 4, 5 and 5.1 brake fluid.

(Ratchet lever type handle with release button) 90 lb maximum lever pull

Lever Ratio 8.8:1
Hydraulic Remote Actuators
(pedal operated)

DESCRIPTION
MICO® Remote Actuators of this type are actuated by force applied to the push rod by various types of foot pedal controls.

Initial application pressure moves the floating piston assembly forward. This action seals off fluid flow from the reservoir.

Further application builds up pressure and forces fluid out of the outlet port to the brake or clutch.

When application pressure is released, the floating piston assembly is forced back by the return spring.

See page 25 for Fluid Reservoirs.

FEATURES
- Heavy duty industrial design
- Reservoir can be remotely mounted for easy accessibility
- Cups do not pass over replenishing ports
- Ideal for remote application of brakes or clutch
- Available with seals for DOT 3, 4, 5 or 5.1 brake fluid or mineral base hydraulic oil
- Reservoir can be remotely mounted for easy accessibility, see page 25

Typical System Schematics
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Pedal Position</th>
<th>Bore Diameter</th>
<th>Total Stroke</th>
<th>Effective Stroke</th>
<th>Effective Displacement</th>
<th>Actuator Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>03-460-055</td>
<td>BF</td>
<td>Right Side</td>
<td>1.125 in</td>
<td>1.062 in</td>
<td>1.000 in</td>
<td>0.99 in³</td>
<td>03-460-131</td>
</tr>
<tr>
<td>03-460-057</td>
<td>BF</td>
<td>Center</td>
<td>1.125 in</td>
<td>1.062 in</td>
<td>1.000 in</td>
<td>0.99 in³</td>
<td>03-460-131</td>
</tr>
<tr>
<td>03-460-058</td>
<td>HO</td>
<td>Right Side</td>
<td>1.125 in</td>
<td>1.062 in</td>
<td>1.000 in</td>
<td>0.99 in³</td>
<td>None</td>
</tr>
<tr>
<td>03-460-062</td>
<td>HO</td>
<td>Center</td>
<td>1.125 in</td>
<td>1.062 in</td>
<td>1.000 in</td>
<td>0.99 in³</td>
<td>None</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil       BF = DOT 3, 4, 5 and 5.1 brake fluid.

Dimensions may vary slightly by model number.
Pedal Operated

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Pedal Position</th>
<th>Bore Diameter</th>
<th>Total Stroke</th>
<th>Effective Stroke</th>
<th>Effective Displacement</th>
<th>Actuator Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-460-127</td>
<td>BF</td>
<td>Right Side</td>
<td>1.125 in</td>
<td>1.250 in</td>
<td>1.187 in</td>
<td>1.18 in^3</td>
<td>20-080-077</td>
</tr>
<tr>
<td>02-460-128</td>
<td>HO</td>
<td>Right Side</td>
<td>1.125 in</td>
<td>1.250 in</td>
<td>1.187 in</td>
<td>1.18 in^3</td>
<td>20-080-078</td>
</tr>
<tr>
<td>03-460-067</td>
<td>BF</td>
<td>Right Side</td>
<td>1.125 in</td>
<td>1.250 in</td>
<td>1.187 in</td>
<td>1.18 in^3</td>
<td>20-080-077</td>
</tr>
<tr>
<td>03-460-068</td>
<td>HO</td>
<td>Right Side</td>
<td>1.125 in</td>
<td>1.250 in</td>
<td>1.187 in</td>
<td>1.18 in^3</td>
<td>20-080-078</td>
</tr>
</tbody>
</table>

* Includes 20-920-002 fluid reservoir.

HO = mineral base hydraulic oil  BF = DOT 3, 4, 5 and 5.1 brake fluid.

**RESERVOIR**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-920-002</td>
<td>BF or HO</td>
<td>3.3 in^3</td>
</tr>
</tbody>
</table>

**Filler cap with baffle and breather.**
Hydraulic Remote Actuators
(mechanically operated)

DESCRIPTION
MICO® Remote Actuators of this type are actuated by a force exerted on the push rod by various types of mechanical linkage.

Initial application pressure moves the floating piston assembly forward. This action seals off fluid flow from the reservoir.

Further application builds up pressure and forces fluid out of the outlet port to the brake or clutch.

When application pressure is released, the floating piston assembly is forced back by the return spring.

See page 25 for Fluid Reservoirs.

FEATURES
- Rugged heavy-duty construction
- Reservoir can be remotely mounted for easy accessibility
- Case hardened piston for extended service life
- Ideal for remote application of brakes or clutch
- Available with seals for DOT 3, 4, 5 or 5.1 brake fluid or mineral hydraulic oil
- Reservoir can be remotely mounted for easy accessibility, see page 25

Typical System Schematics

Single Actuator

Master Cylinder

Brake Cylinders or Clutch

Slave Cylinder

Two Actuators

Disc Brake
Hydraulic Remote Actuators

Mechanically Operated

Dimensions may vary slightly by model number.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Bore Diameter</th>
<th>Total Stroke</th>
<th>Effective Stroke</th>
<th>Effective Displacement</th>
<th>Inlet Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-460-066</td>
<td>BF</td>
<td>1.125 in</td>
<td>1.593 in</td>
<td>1.437 in</td>
<td>1.43 in²</td>
<td>1/8-27NPTF</td>
</tr>
<tr>
<td>02-460-072</td>
<td>HO</td>
<td>1.125 in</td>
<td>1.593 in</td>
<td>1.437 in</td>
<td>1.43 in²</td>
<td>1/8-27NPTF</td>
</tr>
<tr>
<td>02-460-152</td>
<td>HO</td>
<td>1.125 in</td>
<td>1.593 in</td>
<td>1.437 in</td>
<td>1.43 in²</td>
<td>1/4-18NPTF</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil  BF = DOT 3, 4, 5 and 5.1 brake fluid.
Hydraulic Remote Actuators

Mechanically Operated

Dimensions may vary slightly by model number.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Bore Diameter</th>
<th>Total Stroke</th>
<th>Effective Stroke</th>
<th>Effective Displacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-460-068</td>
<td>HO</td>
<td>1.125 in</td>
<td>1.593 in</td>
<td>1.437 in</td>
<td>1.43 in³</td>
</tr>
<tr>
<td>12-460-002</td>
<td>BF</td>
<td>1.125 in</td>
<td>1.593 in</td>
<td>1.437 in</td>
<td>1.43 in³</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil  BF = DOT 3, 4, 5 and 5.1 brake fluid.
Hydraulic Remote Actuators

Mechanically Operated

Dimensions may vary slightly by model number.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Bore Diameter</th>
<th>Total Stroke</th>
<th>Effective Stroke</th>
<th>Effective Displacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-460-061</td>
<td>BF</td>
<td>1.500 in</td>
<td>1.593 in</td>
<td>1.437 in</td>
<td>2.54 in³</td>
</tr>
<tr>
<td>03-460-054</td>
<td>HO</td>
<td>1.500 in</td>
<td>1.593 in</td>
<td>1.437 in</td>
<td>2.54 in³</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil  BF = DOT 3, 4, 5 and 5.1 brake fluid.
MICO® Intensifier models available that act as fluid separators. Different fluids can be used in the assist section than in the cylinder section.

In mechanically linked intensifiers of this type the piston in the assist section is forced forward. This action moves the piston assembly in the cylinder section forward, thus preventing fluid flow from the reservoir. With additional pressure the fluid in the cylinder section is forced out the outlet port to a disc brake or other application.

**DESCRIPTION**

**FEATURES**

- For use when a low pneumatic or hydraulic pressure source is available
- For use when a relatively small displacement of high pressure hydraulic fluid is required
- Intensifiers available in output to input pressure ratios of 2:1, 5:1 and 9:1, also 1:1
- Ideal for disc brake applications and various industrial applications
- Reservoir can be remotely mounted for easy accessibility, see page 25

See page 25 for Fluid Reservoirs.

**Typical System Schematics**

![Single Pressure Intensifier](image1)

![Single Pressure Intensifier](image2)
Pressure Intensifiers

Hydraulically Operated

Dimensions may vary slightly by model number.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Ratio Approximately</th>
<th>Effective Stroke</th>
<th>Maximum Output</th>
<th>Maximum Output Pressure</th>
<th>Maximum Input Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-465-029</td>
<td>HO</td>
<td>1:1</td>
<td>1.44 in</td>
<td>1.44 in³</td>
<td>2000 PSI</td>
<td>2000 PSI</td>
</tr>
<tr>
<td>02-465-031</td>
<td>BF</td>
<td>2:1</td>
<td>1.44 in</td>
<td>1.44 in³</td>
<td>2000 PSI</td>
<td>1000 PSI</td>
</tr>
<tr>
<td>02-465-032</td>
<td>HO</td>
<td>2:1</td>
<td>1.44 in</td>
<td>1.44 in³</td>
<td>2000 PSI</td>
<td>1000 PSI</td>
</tr>
</tbody>
</table>

* For use as a fluid separator

HO = mineral base hydraulic oil
BF = DOT 3, 4, 5 and 5.1 brake fluid.
Pressure Intensifiers

Hydraulically Operated

Dimensions may vary slightly by model number.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Fluid Type</th>
<th>Ratio</th>
<th>Effective Stroke</th>
<th>Maximum Output</th>
<th>Maximum Output Pressure</th>
<th>Maximum Input Pressure</th>
<th>Reservoir Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>03-465-020</td>
<td>HO</td>
<td>HO</td>
<td>5:1</td>
<td>1.44 in</td>
<td>1.44 in²</td>
<td>2000 PSI</td>
<td>400 PSI</td>
<td>1/4-18NPTF</td>
</tr>
<tr>
<td>03-465-022</td>
<td>HO</td>
<td>HO</td>
<td>5:1</td>
<td>1.44 in</td>
<td>1.44 in²</td>
<td>2000 PSI</td>
<td>400 PSI</td>
<td>1/8-27NPTF</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil  BF = DOT 3, 4, 5 and 5.1 brake fluid.
Pressure Intensifiers

Hydraulically Operated

Dimensions may vary slightly by model number.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Ratio</th>
<th>Effective Stroke</th>
<th>Maximum Output</th>
<th>Maximum Output Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>03-465-134</td>
<td>HO</td>
<td>BF</td>
<td>9:1</td>
<td>1.91 in</td>
<td>2000 PSI</td>
</tr>
<tr>
<td>03-465-140</td>
<td>HO</td>
<td>HO</td>
<td>9:1</td>
<td>1.91 in</td>
<td>2000 PSI</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil
BF = DOT 3, 4, 5 and 5.1 brake fluid.
Fluid Reservoirs
For Direct or Remote Mounting

POLYALLOMER RESERVOIR
- Translucent for easy view of fluid level
- Diaphragm seals out environmental contaminants
- Adaptable outlet fittings
- Sediment trap inherent to design
- Easy screw on and off filler cap
- 238 cm³ (14.5 in³) usable fluid capacity
- For use with hydraulic oil or brake fluid (contact MICO regarding phosphate ester fluids)

METAL RESERVOIR
- Rugged anodized aluminum housing
- Easy screw on and off filler cap with baffle and breather
- 54 cm³ (3.3 in³) usable fluid capacity
- Compact design for ease of mounting
- Adaptable outlet fittings
- For use with hydraulic oil or brake fluid (contact MICO regarding phosphate ester fluids)

SPECIFICATIONS
Polyallomer Reservoirs

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Outlet Fitting</th>
<th>Mounting Bracket</th>
<th>Diaphragm Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-920-500</td>
<td>HO</td>
<td>9/16-18UNF-2A</td>
<td>Yes</td>
<td>32-490-009</td>
</tr>
<tr>
<td>20-920-520</td>
<td>HO</td>
<td>9/16-18UNF-2A</td>
<td>No</td>
<td>32-490-009</td>
</tr>
<tr>
<td>20-920-512</td>
<td>HO</td>
<td>1/4-18NPTF (internal)</td>
<td>Yes</td>
<td>32-490-009</td>
</tr>
<tr>
<td>20-920-514</td>
<td>HO</td>
<td>1/4-18NPTF (internal)</td>
<td>Yes</td>
<td>32-490-009</td>
</tr>
<tr>
<td>20-920-505</td>
<td>BF</td>
<td>9/16-18UNF-2A</td>
<td>No</td>
<td>32-490-009</td>
</tr>
<tr>
<td>20-920-509</td>
<td>BF</td>
<td>1/4-18NPTF (internal)</td>
<td>Yes</td>
<td>32-490-009</td>
</tr>
<tr>
<td>20-920-515</td>
<td>BF</td>
<td>1/4-18NPTF (internal)</td>
<td>No</td>
<td>32-490-010</td>
</tr>
</tbody>
</table>

HO = mineral base hydraulic oil.
BF = DOT 3, 4, 5 and 5.1 brake fluid.

SPECIFICATIONS
Metal Reservoirs

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fluid Type</th>
<th>Mounting Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>* 20-920-002</td>
<td>BF or HO</td>
<td>No</td>
</tr>
<tr>
<td>** 20-920-006</td>
<td>BF or HO</td>
<td>Yes</td>
</tr>
<tr>
<td>20-920-009</td>
<td>BF or HO</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* Includes 1/8-27NPTF male 90° elbow fitting.
** Includes two 1/4-27NPTF x 1/4 tube fittings.
HO = mineral base hydraulic oil.
BF = DOT 3, 4, 5 and 5.1 brake fluid.
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PRODUCT LINE:
Brakes
Caliper Disc Brakes
Multiple Disc Brakes

Brake Locks
Electric
Mechanical

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Electronic Controls
Hydraulic Throttle Controls
Pedal Controls
Switches
Transducers/Sensors

Cylinders
Drive Axle Brake Actuators
Slave Cylinders
Wheel Cylinders

Master Cylinders
Boosted Cylinders
Hydraulically and Air Actuated
Straight Bore Cylinders
Two-Stage Cylinders

Valves
Accumulator Charging
Electrohydraulic Brake
Park Brake
Pressure Modulating

Miscellaneous Components
In-line Residual Check Valves
Pump with Integrated Valves
Reservoirs

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