DURA X MAX®

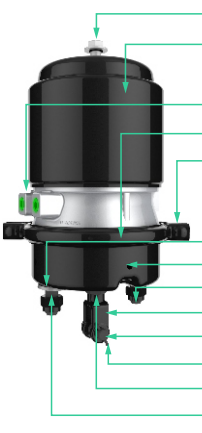
The brand, shaping the future of SAFETY

DMPxxxx Series Piston Type Combination Spring Brake
INSTALLATION and INSPECTION MANUAL

⚠ CAUTION : High compressed spring is loaded inside of the Spring Brake. It is VERY IMPORTANT to read all the manuals and follow the instruction. Releasing piggyback or spring chamber forcefully without proper instruction may cause death, severe personal injury and/or property damage. If Spring Brake is not caged, mounting Nut and Clamp Nut should never be released. May cause severe injury.

Model	Type	Stroke		Remarks
		inches	mm	
DMP3024EI	3024	3	76	
DMP3024ET	3024	3	76	
DMP2424EI	2424	3	76	
DMP2424ET	2424	3	76	

DMP / Name of the component parts



1. Caging Bolt
2. Cover, Head Housing
3. Adaptor Housing
4. Clamp Band
5. Clamp Bolt
6. Mounting Washer
7. Bottom Housing
8. Mounting Nut
9. Yoke (Clevis)
10. Yoke Pin
11. Split Pin
12. Nut Yoke
13. Mounting Bolt

Important Notification for Installation

Prior to installation, it is mandatory that the Spring Brake is caged. If not caged, must be done before the installation. To maximize the life of the Spring Brakes, we highly recommend you to follow the service manual when installing the product to your vehicle.

When installing the Spring Brake on to horizon type of mounting bracket, the minimum contact surface is always required.

When bracket and mounting bolt is required to be aligned, the minimum contact space can be smaller than horizontal type of bracket.

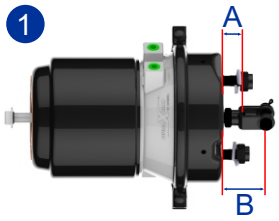
Always mount the brake chamber directly on to the bracket. DO NOT add or insert shims, spacers, washers or reinforcing plates between the bracket and the brake chamber.

Piston Spring Brake Chamber Removal Instruction

1. Always block wheels when working on brake to prevent vehicle rollaway.
2. After removing the parking brake apply vehicle or shop pressure 6.2 ~ 8.3 bar (90~120psi/620~830 kPa minimum), to emergency parking brake. Maintain vehicle or shop air pressure, unscrew the caging nut counterclockwise from the side of the chamber housing using ¾ inch (19mm) wrench. Open the head cover and use caging bolt to cage the spring brake. (If air leaks from the spring brake, you can manually cage the spring brake by using the caging bolt). Slight loose fit between between the yoke pin and slack adjuster is sufficient.
3. Activate the parking brake on the vehicle to exhaust all the air from inside of the spring brake.
4. Follow the manufacturer's instruction precisely, using spanner wrench, release the air hose and the connector from the chamber. Marking before the separation to ensure the location of the air line and connector is highly recommended.
5. Remove the split pin and the yoke(clevis) pin from the yoke.
6. Using a 15/16 inch socket wrench, unscrew the mounting bolt counterclockwise and cautiously remove the old chamber.

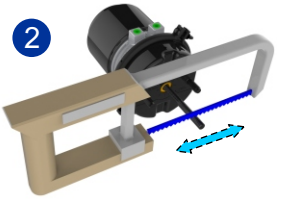
Installation of Piston Spring Brake Chamber to Mounting Bracket

1. Prior to spring brake chamber installation, ensure that spring brake is completely caged (power spring caged), and the service brake pushrod is fully retracted to zero stroke position. DETERMINE CORRECT PUSHROD LENGTH : Follow the manufacturer's instruction or if the old brake chamber was properly installed, use the old brake measurement to determine the proper pushrod length. The measurement must be equal to replacing brake chamber.

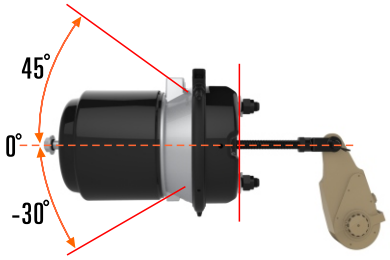


1) Measure the bottom housing and record the end of pushrod (A) to center line of York pin (B) from the previous chamber. Spring Brake MUST BE caged completely for the measurement.

2) If the measurement needs to be readjusted, use the measurement from 1) above to cut the pushrod. Mark the correct length on the pushrod. Use the York nut to facilitate marking of correct length and cut the pushrod. Attach the York nut and York(clevis) to the pushrod.

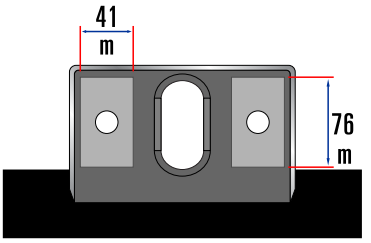


2. To ensure the flatness of the mounting bracket surface, inspect the bracket mounting.
The bracket must be free from excessive debris, burr, cracks, and welding burn mark. The bracket must also be flat to 1/64"(.04mm)



Recommended brake chamber installation angle

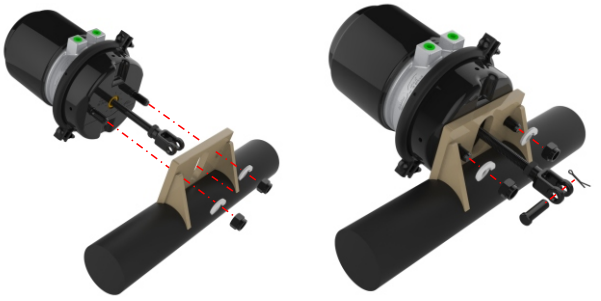
IMPORTANT :
Recommended brake chamber installation angle is 45° ~ -30°, and needs to maintain minimum contact surface.



Minimum contact surface during installation

Minimum contact surface for bracket during installation

3. Install the spring brake chamber to mounting bracket of the axles and insert the mounting washer.
After inserting the mounting washer, using 24mm(15/16 inch)
socket wrench, screw the mounting nut clockwise. Recommended torque is
18~21kgf.m(133~155 lbt.ft).
Be careful not to install the mounting washer between the chamber and the bracket.



4. Make sure the location of the yoke nut and yoke at the pushrod, position the yoke hole to slack adjuster, double check the external diameter of the York pin and assemble the split pin.
Hold the yoke to prevent it from spinning and start tightening the yoke nut to 6~7kgf.m(45~50 lbf.ft) torque.

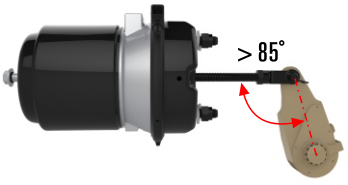
Important : If the yoke hole at the pushrod doesn't reach slack adjuster hole,
DO NOT ATTEMPT to pull the pushrod physical (by force)

5. Using Loctite glue or Teflon tape, tighten the chamber fitting at 3.6kgf.m(25lbf.ft) torque.
Connect the correct air hose to each position.
6. After charging the air tank to 6.2~8.3 bar(90~120 psi / 620~ 830 kPa, release the parking brake (parking level off),
I,e, charge the spring chamber, turn caging volt to clockwise to torque at 6~8Kgf.m (44~58 lbf.ft)

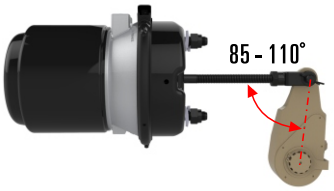
Installation Inspection

1. After charging the air tank to 6.2~8.3 bar (90~120 psi/620 ~830kPa), release the parking brake. Using soapy water (NEVER ANY TYPE OF OIL) inspect air leak from airline and fitting and also from service part airline and fitting during foot brake operation.
2. Following your vehicle manufacturer's instruction, use slack adjuster to make brake drum and lining touched, and adjust the stroke.
3. When Brake OFF : Angle of the pushrod and slack adjuster must always be greater than 90°
4. When Brake ON: Angle of the pushrod and slack adjuster cannot be less than 90°

BRAKE OFF

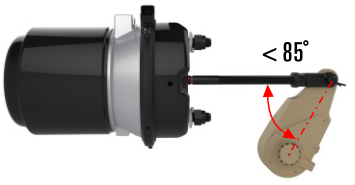


BRAKE ON



CORRECT INSTALLED

BRAKE ON / Applied



INCORRECT INSTALLED

SAFE SCRAP old Spring Brake

1. All retired spring brake chamber must be safely disarmed before they are disposed of to prevent serious personal injury and property damage from accidental sudden release of the high energy spring.
2. To dispose the spring chamber, place it in the steel container and close it. Use gas radiator to cut through the head housing and cut the actuator spring.