

Prepared by:-	M.Davies	Approved by:-		Date: 29/04/16
REV NO:-				
ECO:-				

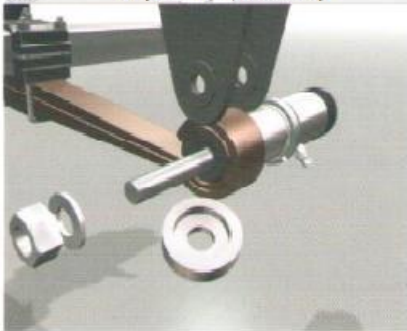
USE AND APPLICATIONS

The HBR 18 tonne capacity kits have been designed and developed in conjunction with commercial vehicle operators and manufacturers to provide a safe and reliable method of removal and installation of spring eye bushes.

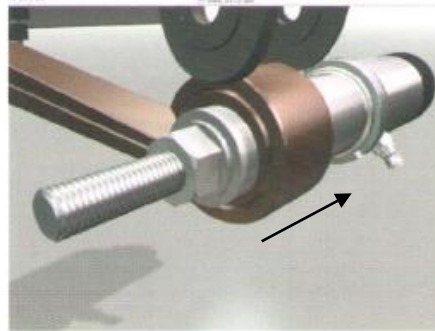
The HBR system incorporates a light-weight aluminium hollow bore hydraulic cylinder and accessories providing a labour saving, in-situ method of spring eye replacement for all models and makes of commercial vehicle.

Four – Step removal and installation procedure.

Step 1: Removal set-up



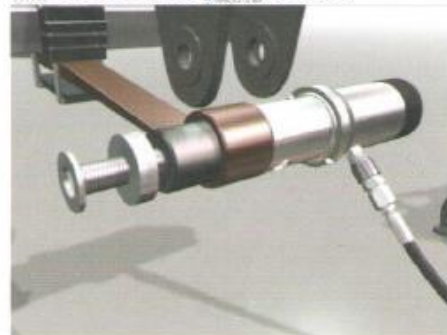
Step 2: Start Removal



Step 3 - Removal complete



Step 4: New Bush Insertion



Recommended Pump Options

AHP1120



HP212



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Typical Application Set-Up.

Bush Removal & Insertion on DAF CF85



Bush Removal : MAN

**Kit Contents:**

HHA182 Hollow Bore Cylinder – 18 tonne capacity -51 mm Stroke

Adaptor base plate

73mm inside diameter pull sleeve

49mm inside diameter pull sleeve.

1 x M16 pull rod x 500mm long

1 x M20 pull rod x 500mm long

1 x M24 pull rod x 500mm long

5 x blank removal dollies.

General Instructions:

- 1) Remove leaf spring shackle pin and jack spring clear of mounting bracket
- 2) Select the rod size which is the closest fit to the hole in the bush to be removed.
- 3) Select the pull sleeve that clears the outside diameter of the bush and reacts against the largest area possible on the spring eye.
- 4) Select the required blank removal dolly for the bush. This may require some machining to size, dependant on the bush diameter to be removed.
- 5) Set-up as shown in pictures on page 1. Note: Piston of cylinder should be fully retracted.

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- 6) Align the assembly centrally and tighten by hand.
- 7) Check alignment.
- 8) Apply a small pressure from the pumping unit to the assembly.
- 9) Re-check alignment. Apply full pressure and remove the Bush.
- 10) To insert the new bush reverse the above procedure.

IMPORTANT SAFETY INSTRUCTIONS

Important Note: It is the responsibility of the purchaser to ensure that operators of this equipment are properly trained in its safe use and have access to **Hi-Force Operating and Safety Instructions**.

No modification and/or additions may be made to the equipment without the written permission of the manufacturer.

- 1) Keep these instructions and other applicable Hi-Force manuals during the life of the equipment and make sure they are available for all personnel that install, use and maintain the equipment
- 2) Before commencing work with this equipment, the operator should:-
 - Ensure that the pump and cylinder and all components of the kit are clean, dirt free and in good condition.
 - Check all external surfaces for mechanical damage and/or oil leaks. If either is present do not use the equipment and have it serviced.
 - Wear all personal protective equipment recommended by his/her company/employer and should wear safety glasses/visor at all times.
- 3) Read all relevant operating and safety instructions provided with the kit prior to use. Hi-Force Limited cannot be held responsible for any personal injury or machine damages that can occur if these instructions are not followed.
- 4) Never allow unauthorized personnel to use the equipment
- 5) Ensure that the maximum rated loads for the pull rods provided are never exceeded. These loads are:
M16 rod: Maximum applied load 10 ton (12.9 grade material)
M20 rod: Maximum applied load 16 ton (10.9 grade material)
M24 rod: Maximum applied load 23 ton (10.9 grade material)
- 6) Never tamper with the safety valve setting in the hydraulic Pump.
- 7) Ensure threads are clean and free from dirt at all times. Never use rods that are bent or have damaged threads
- 8) Ensure cylinder, rod, adaptors, and bush, are aligned as - accurately as possible before applying loads.
- 9) Never stand in line with application when applying force to the equipment.
- 10) Ensure no unauthorized personnel stay within the risk area whilst the equipment is in use.
- 11) Never leave the working area with the equipment loaded.
- 12) Always use a genuine Hi-Force power sources to operate the equipment.
- 13) Maintenance should be made by authorized service workshop
- 14) Pressure & load gauges can be provided as optional extras on request.

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