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](image1)

![Step 2: Start Removal](image2)

![Step 3: Removal complete](image3)

![Step 4: New Bush Insertion](image4)

**Recommended Pump Options**

![AHP1120](image5)

![HP212](image6)
Typical Application Set-Up.

**Kit Contents:**
HHA182 Hollow Bore Cylinder – 18 tonne capacity -51mm 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.
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.
UK Head Office:
Hi-Force Limited
Prospect Way
Daventry
Northamptonshire
NN11 8PL
United Kingdom

Tel: + 44 1327 301000
Fax: + 44 1327 706555
Email: daventry@hi-force.com

Hi-Force Regional Offices:

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<tr>
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<th>Hi-Force Caspian</th>
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<td>Baku</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Azerbaijan</td>
</tr>
<tr>
<td>Tel: +44 1224 973 512</td>
<td>Tel: +994 12 447 4100</td>
</tr>
<tr>
<td>Email: <a href="mailto:aberdeen@hi-force.com">aberdeen@hi-force.com</a></td>
<td>Email: <a href="mailto:baku@hi-force.com">baku@hi-force.com</a></td>
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</tr>
<tr>
<td>Malaysia</td>
<td>Netherlands</td>
</tr>
<tr>
<td>Tel: +603 5569 4209</td>
<td>Tel: +31 78 6745488</td>
</tr>
<tr>
<td>Email: <a href="mailto:malaysia@hi-force.com">malaysia@hi-force.com</a></td>
<td>Email: <a href="mailto:holland@hi-force.com">holland@hi-force.com</a></td>
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</tr>
<tr>
<td>Tel: +27 11 314 0555</td>
<td>Tel: +971 4 815 0600</td>
</tr>
<tr>
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</tr>
<tr>
<td>Tel: +971 2 551 3100</td>
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