

AIR / HYDRAULIC JACK

1/2 TON (454 Kg) CAPACITY

PART CODE H29290

## WARNING

1. READ, STUDY AND UNDERSTAND ALL WARNING LABELS AND OPERATING INSTRUCTIONS FURNISHED WITH THIS EQUIPMENT PRIOR TO USE. IF ANY PORTION OF THIS MATERIAL IS UNCLEAR, CONTACT YOUR REPRESENTATIVE FOR CLARIFICATION.
2. NEVER ALLOW UNSKILLED OR IMPROPERLY TRAINED PERSONNEL TO OPERATE THIS EQUIPMENT.
3. THE USE OF THIS JACK IS LIMITED TO THE REMOVAL, INSTALLATION, AND TRANSPORTATION IN THE LOWERED POSITION, OF TRANSMISSIONS AND TRANSFER CASES. IT MAY BE USED WITH APPROPRIATE ADAPTERS MANUFACTURED SPECIFICALLY FOR THIS JACK TO HANDLE OTHER COMPONENTS, SUCH AS REAR AXLE DIFFERENTIALS, WITHIN THE WEIGHT LIMITATIONS SPECIFIED. USE ONLY ADAPTERS SUPPLIED BY THE TRANSMISSION JACK MANUFACTURER AND NO MODIFICATIONS TO THE JACK OR ADAPTERS SHALL BE MADE.
4. DO NOT USE AS AN UNDER HOIST LIFT. THIS JACK HAS ENOUGH FORCE TO LIFT VEHICLES OFF HOISTS. NEVER USE THE JACK TO LIFT VEHICLE WHILE REMOVING OR INSTALLING COMPONENTS.
5. BE SURE VEHICLE IS APPROPRIATELY SUPPORTED BEFORE STARTING REPAIRS. THIS JACK IS NOT A LOAD SUSTAINING DEVICE.
6. DO NOT OVERLOAD. OVERLOAD CAN CAUSE DAMAGE, FAILURE OF THE JACK AND / OR PERSONAL OR FATAL INJURY. MAXIMUM AIR PRESSURE SHOULD NOT EXCEED 160 PSI.
7. USE ONLY ON HARD LEVEL SURFACES CAPABLE OF SUSTAINING THE LOAD. USE ON OTHER THAN HARD LEVEL SURFACES WILL RESULT IN JACK INSTABILITY AND LOSS OF LOAD.
8. ALWAYS USE THE LOAD RESTRAINT CHAIN, CORNER SUPPORT BRACKET, OR ATTACHMENTS TO STABILIZE AND FIRMLY SECURE THE LOAD TO THE SADDLE, INSURE LOAD RESTRAINT CHAIN IS TIGHT AND PROPERLY POSITIONED TO EFFECTIVELY HARNESS THE LOAD. NEVER USE THIS JACK WITHOUT A LOAD RESTRAINT CHAIN STRONG ENOUGH TO SUPPORT THE TRANSMISSION.
9. ALWAYS EXTEND THE AIR CYLINDER TO ITS MAXIMUM LIFT HEIGHT TO ENSURE LOCKING DEVICE IS PROPERLY ENGAGED BEFORE LIFTING WITH HYDRAULIC SYSTEM.
10. NEVER USE THE AIR CYLINDER TO POSITION THE LOAD AT ANY LEVEL BETWEEN FULL UP OR FULL DOWN POSITION.
11. ALWAYS LOCATE THE CENTER OF GRAVITY OF LOAD, CENTRALLY OVER TRANSMISSION JACK BEFORE RAISING OR LOWERING.
12. THE REMOVAL OR INSTALLATION OF TRANSMISSION, TRANSFER CASE MAY CAUSE A CRITICAL SHIFT IN THE CENTER OF GRAVITY RESULTING IN VEHICLE INSTABILITY.
13. REMOVAL OR INSTALLATION OF ALL COMPONENTS SHOULD BE IN ACCORDANCE WITH VEHICLE MANUFACTURER'S PROCEDURES AND SPECIFICATIONS.
14. WHEN RAISING OR LOWERING VEHICLE COMPONENTS BE SURE TO KEEP ALL BODY PARTS CLEAR OF MOVING CYLINDERS, COMPONENTS, AND POSSIBLE PINCH POINTS.
15. BE SURE JACK AND VEHICLE COMPONENTS ARE STABLE BEFORE RAISING OR LOWERING.
16. ALWAYS LOWER THE JACK HYDRAULICALLY BEFORE LOWERING THE AIR CYLINDER TO ITS LOWEST POSITION.
17. PRIOR TO TRANSPORTING THE LOAD, INSURE THAT THE JACK IS ADJUSTED TO THE LOWEST HORIZONTAL POSITION POSSIBLE, THE LOAD IS CENTRALLY LOCATED ON THE SADDLE, LOAD RESTRAINT CHAIN IS TIGHT AND PROPERLY POSITIONED TO EFFECTIVELY HARNESS THE LOAD, AND THE AIR HOSE IS DISCONNECTED. THE STABILITY OF THE JACK AND LOAD CHANGES WHEN THE HEAD ASSEMBLY IS TILTED IN ANY DIRECTION.
18. DO NOT TOW JACK BY PUMP HANDLE, LOAD RESTRAINT CHAIN, OR AIR HOSE. THIS MAY RESULT IN INSTABILITY OF JACK OR POSSIBLE LOSS OF LOAD.
19. DO NOT DISCONNECT AIR HOSE WHILE RAISING OR LOWERING THE LOAD. THIS MAY RESULT IN LOAD UNINTENTIONALLY LOWERING.
20. DO NOT MODIFY THIS EQUIPMENT OR REMOVE LOAD RESTRAINT CHAINS.
21. IT IS YOUR RESPONSIBILITY TO KEEP ALL WARNING LABELS AND INSTRUCTIONAL LITERATURE LEGIBLE AND INTACT. REPLACEMENT LABELS AND LITERATURE ARE AVAILABLE FROM THE FACTORY.
22. FAILURE TO HEED THESE WARNINGS MAY RESULT IN EQUIPMENT OR PROPERTY DAMAGE AND / OR PERSONAL OR FATAL INJURY.

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## OWNER'S RESPONSIBILITY

**Operation.** The owner and/or operator shall have an understanding of these operating instructions and warnings before operating this product. Warning information shall be emphasized and understood. If the user is not fluent in English, the instructions and warnings shall be read to and discussed with the operator in the operator's native language by the purchaser/owner, making sure that the operator comprehends its contents.

**Maintenance.** This product shall be maintained in accordance with instructions listed under "Maintenance."

### Inspection

1. Visual inspection shall be made before each use of the jack, checking for leaking hydraulic fluid, and damaged, loose or missing parts.
2. Each jack shall be inspected by an authorized service center immediately, if subjected to an abnormal load or shock.

3. Owners and/or users should be aware that repair of this equipment may require specialized knowledge and facilities. It is recommended that an annual inspection of the jack be made by an authorized service center and that any defective parts, decals or warning labels be replaced with genuine factory parts. A list of authorized service centers is available from the factory.

**Damaged Jacks.** Any Jack which appears to be damaged in any way, is found to be badly worn, or operates abnormally SHALL BE REMOVED FROM SERVICE until necessary repairs are made by an authorized service center.

## ASSEMBLY

1. Before using the jack for the first time, some assembly is required. Place unit in upright position and bolt legs to base using (8) 3/8-16 x 3.25" bolt and locknuts provided with jack.
2. Assemble casters to legs.
3. Assemble arms and corner brackets to top plate using (8) special bolts and (8) hex nuts.

## INSTRUCTIONS BEFORE USE

**Bleed hydraulic system.** During transit hydraulic jacks may become "air-bound," causing spongy ram action or pumping system to operate irradlately. To bleed the hydraulic system - Open release valve by turning release knob counterclockwise four full turns. Pump handle several times to expel air from pump area. Close the release valve by turning clockwise. Fully extend the hydraulic ram and allow unit to stand for 30 seconds at fully extended height. Open release valve 3 to 4 turns counterclockwise allowing the unit to rapidly retract. Unit should now operate properly.

## OPERATING INSTRUCTIONS

- Lifting.** Connect to air supply, depress foot pedal to raise 1st stage completely until lock is fully engaged. Pump handle to energize 2nd stage ram to contact transmission. Position Jack so weight of load will be equally distributed on saddle, and adjust pitch and tilt controls as necessary. Position corner support brackets and secure load with load restraint chain.



## WARNING

Always use the load restraint chain which is provided to stabilize and firmly secure the load to the saddle. The chain should be used as follows: Place the chain over the load, pull taut and engage into slot on opposite side of saddle. Tighten wing nut.

- Lowering** - To lower jack - Turn release knob counterclockwise slowly. The release valve is metered so operator can control the rate of descent based on the number of turns the valve is opened.
- Saddle controls.**  
**Pitch** - The forward and rear tilt knob will pitch saddle 28° forward and 10° rearward  
**Tilt control** - The side tilt knob tilts saddle 12° left or right.

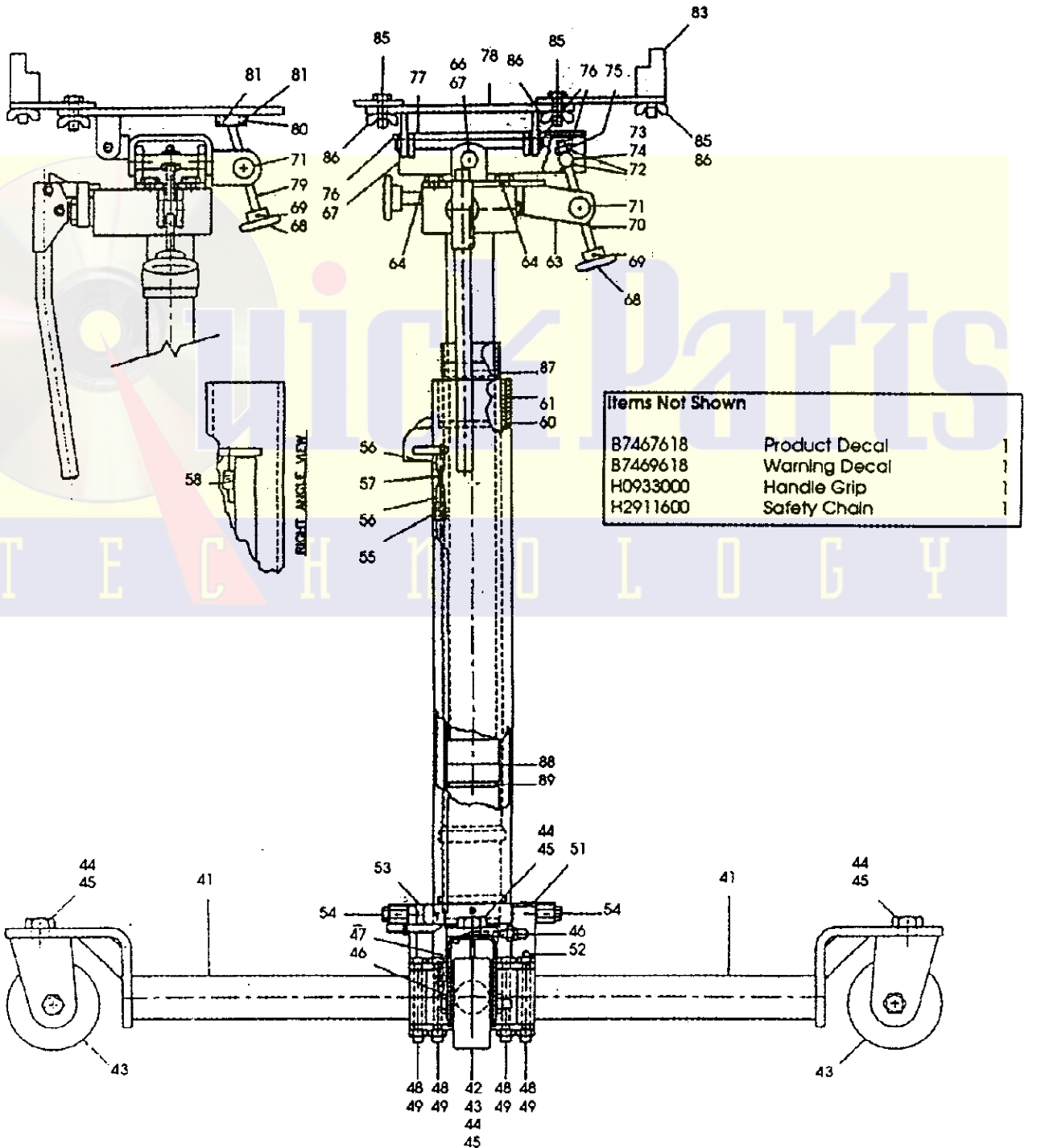
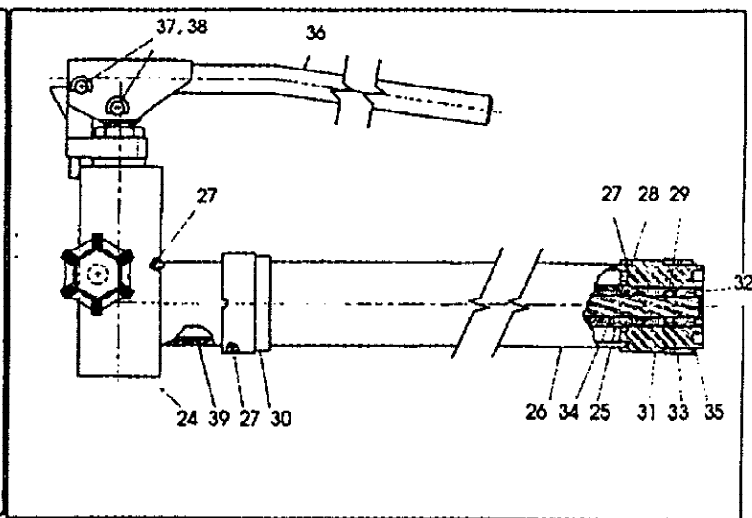
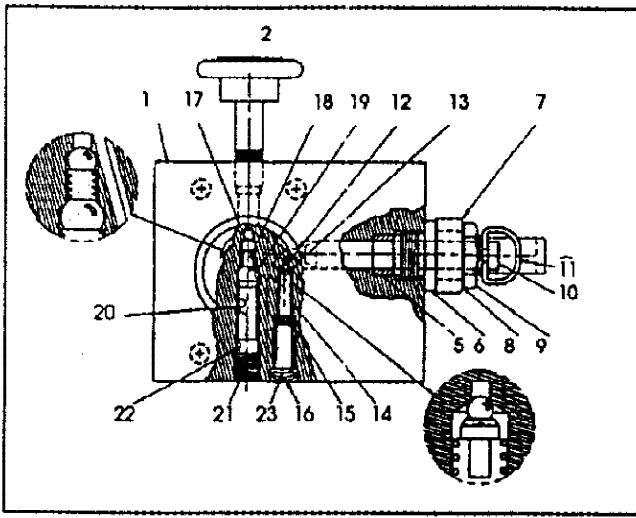
## MAINTENANCE

- Lubricate regularly all moving parts of the jack - pay special attention to the tilt screws and related linkages.
- If hydraulic system fails to fully extend, and pumping system is operating irradlately, unit may require hydraulic oil. Use only genuine hydraulic jack oil. **Never use alcohol or hydraulic brake fluids.** To add oil, the saddle must be removed. Fully retract hydraulic ram; open filler plug located under saddle on top of hydraulic unit. Add 3 oz. of oil and close filler plug. Pump hydraulic unit up; hydraulic ram should fully extend. Repeat procedure if unit is lifting higher than before, but is not fully extending.

| ITEM NO. | PART CODE | DESCRIPTION           | QTY REQUIRED |
|----------|-----------|-----------------------|--------------|
| 1        | H2903500  | Hydraulic Block       | 1            |
| 2        | H2908600  | Release Screw Asm.    | 1            |
| 5*       | H6734300  | U - Cup               | 1            |
| 6        | H2903800  | Piston Packing Nut    | 1            |
| 7        | H2909900  | Socket Bracket Asm.   | 1            |
| 8        | H2140500  | Washer                | 1            |
| 9        | H2137500  | Nut                   | 1            |
| 10       | H2904300  | Pump Piston           | 1            |
| 11       | H0720500  | Piston Clip           | 1            |
| 12       | BP181160  | 1/8" Ball             | 1            |
| 13       | BK880013  | Ball Guide            | 1            |
| 14       | BK878110  | Spring                | 1            |
| 15       | BK877028  | Socket Head Jam Screw | 1            |
| 16*      | H3180900  | Expansion Plug        | 1            |
| 17*      | H0267500  | 1/4" Ball             | 1            |
| 18*      | H0218500  | Spring                | 1            |
| 19*      | H0301000  | 3/8" Ball             | 1            |
| 20*      | H6735000  | Spring                | 1            |
| 21       | H2544000  | 1/4" Pipe Plug        | 1            |
| 22       | H2904500  | Spacer                | 1            |
| 23*      | H3181800  | Seal                  | 1            |
| 24       | H2908400  | Unit Block Asm.       | 1            |
| 25       | H2903900  | Cylinder              | 1            |
| 26       | H2904000  | Reservoir Tube        | 1            |
| 27*      | H6437900  | O - Ring              | 3            |
| 28*      | H1629000  | O - Ring              | 1            |
| 29*      | H6734300  | U - Cup               | 1            |
| 30       | H2904600  | Guide                 | 1            |
| 31       | H2903700  | Top Nut               | 1            |
| 32       | H2909600  | Packing Nut           | 1            |
| 33       | H2907800  | Sleeve                | 1            |
| 34       | H2904100  | Plunger               | 1            |
| 35       | H2348500  | Retaining Ring        | 1            |
| 36       | H0746000  | Handle Asm.           | 1            |
| 37       | H6028700  | Pin                   | 2            |
| 38       | H1241500  | Clip                  | 2            |
| 39       | H2910000  | Suction Tube          | 1            |
| 40       | H2906600  | Base Weldment         | 1            |
| 41       | H2906800  | Leg Widmt. Short      | 2            |
| 42       | H2906900  | Leg Widmt. Long       | 2            |

| ITEM NO. | PART CODE | DESCRIPTION           | QTY REQUIRED |
|----------|-----------|-----------------------|--------------|
| 43       | H2102000  | Caster                | 4            |
| 44       | H2610900  | Hex Nut 3/4 - 16      | 4            |
| 45       | H0249000  | Shakeproof Washer     | 4            |
| 46       | H2909100  | Flared Elbow          | 1            |
| 47       | H2909300  | Air Tube              | 1            |
| 48       | H2854100  | Hex Head Screw        | 8            |
| 49       | H6518400  | Gripco Nut 5/16 - 18  | 8            |
| 50       | H2903600  | Pneumatic Unit Block  | 1            |
| 51       | H2910700  | Air Valve             | 1            |
| 52       | H2908900  | Flat Head Screw       | 2            |
| 53       | H2907100  | Treadle Weldment      | 1            |
| 54       | H2910800  | Shoulder Bolt         | 2            |
| 55       | H2910900  | Compression Spring    | 1            |
| 56       | H2909200  | Adjuster              | 2            |
| 57       | H2911000  | Socket Set Screw      | 1            |
| 58       | H2911100  | Extension Spring      | 1            |
| 59       | H2907000  | Air Ram Weldment      | 1            |
| 60*      | H2911200  | Wiper                 | 1            |
| 61       | H2904100  | Air Cylinder Guide    | 1            |
| 62       | H2908500  | Unit Assembly         | 1            |
| 63       | H2907200  | Lower Saddle Weldment | 1            |
| 64       | H2617500  | Hex Head Cap Screw    | 4            |
| 65       | BD120028  | Hex Head Cap Screw    | 1            |
| 66       | H2909000  | Gripco Nut 5/8 - 11   | 1            |
| 67       | BD114111  | Saddle                | 1            |
| 68       | BD935500  | Knob                  | 2            |
| 69       | AJ100308  | Roll Pin              | 2            |
| 70       | BD113028  | Tilt Screw            | 1            |
| 71       | BD920550  | Pivot Nut             | 2            |
| 72       | BD216108  | Washer                | 2            |
| 73       | BD117055  | Pivot Nut             | 1            |
| 74       | BD222044  | Retaining Ring        | 2            |
| 75       | BD268055  | Nut                   | 1            |
| 76       | BD240061  | Cotter Pin            | 3            |
| 77       | BD119061  | Hinge Pin             | 1            |
| 78       | H2907300  | Upper Saddle Weldment | 1            |
| 79       | BD118028  | Tilt Screw            | 1            |
| 80       | BD121151  | Screw Retainer        | 1            |
| 81       | BD267028  | Slotted Cap Screw     | 2            |
| 82       | H2911300  | Arm                   | 4            |
| 83       | BD105111  | RH - Corner Bracket   | 2            |
| 84       | BD104111  | LH - Corner Bracket   | 2            |
| 85       | H2911500  | Bolt                  | 8            |
| 86       | BD263055  | Wing Nut              | 8            |
| 87*      | H6437900  | O - Ring              | 1            |
| 88       | H2907700  | Air Cylinder Sleeve   | 1            |
| 89*      | H2911400  | U - Cup               | 1            |

\* Items included in Repair Kit # H2912500



| Items Not Shown |               |   |
|-----------------|---------------|---|
| B7467618        | Product Decal | 1 |
| B7469618        | Warning Decal | 1 |
| H0933000        | Handle Grip   | 1 |
| H2911600        | Safety Chain  | 1 |

T E C H N O L O G Y