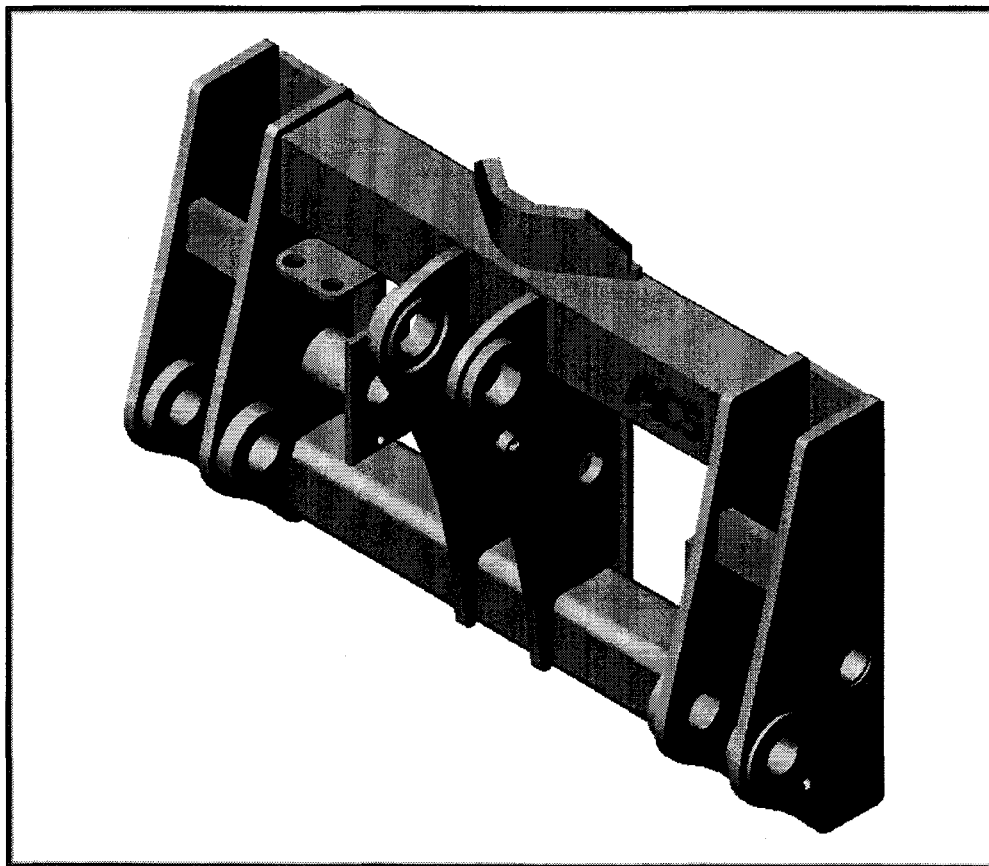


PETTIBONE

360 FIELD INSTALLATION



Corporate Office:

(330) 678-2511

800-321-2348

Fax: (330) 678-0859

ACS Northwest:

(360) 474-1940

800-688-6266

Fax: (360) 474-9941

Part Number: _____

Serial Number: _____

American Coupler Systems®

MANN®

ASBURY

PAC PROGRESSIVE
ATTACHMENTS

SABINE®

www.acs-coupler.com

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CONGRATULATIONS!

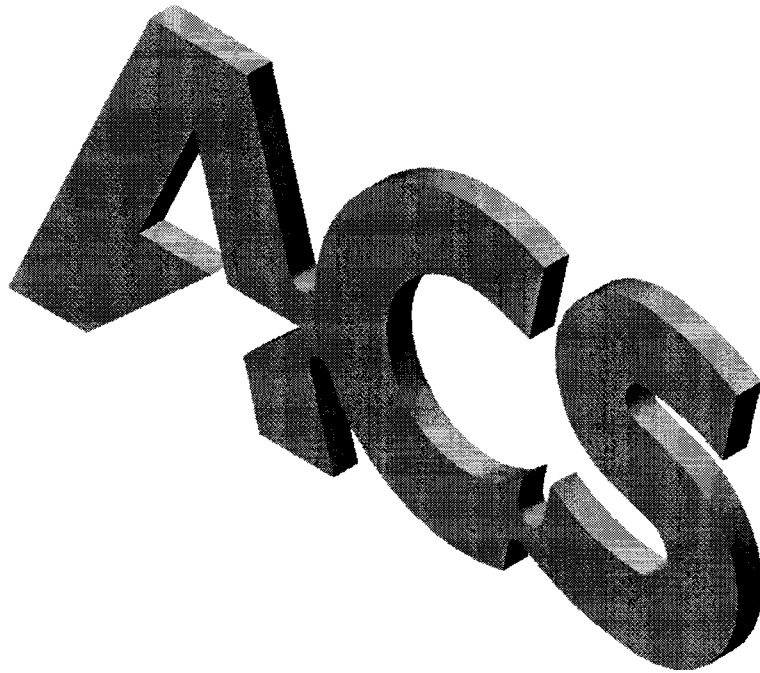
The Series 1000 coupler you have purchased is manufactured by ACS Industries, Inc. from the finest materials to exacting design specifications for maximum operating efficiency and durability.

With regular maintenance and proper care during operation, this Series 1000 coupler system will provide many years of productive and trouble-free service.

Please feel free to call us toll free at **1-800-321-2348**, or e-mail us at support@acs-coupler.com if you should require assistance in any area. We also encourage any input you can provide on how we might improve our Series 1000 coupler systems.

For a complete listing of ACS, Mann, Asbury, Sabine, and Progressive Attachments, call us at **1-800-321-2348**.

Thank you for purchasing an ACS product.



GENERAL INFORMATION

Before installing your ACS Series 1000 Male Master Coupler System, please read and familiarize yourself with this entire manual. Short cuts, lack of proper care, or deviations from instructions may damage the coupler and cause it to malfunction.

The installation sections will explain the procedures necessary to completely install the coupler. Please study the drawings contained within: they will be helpful not only during installation, but also when ordering replacement parts. Also included are sections on operation, maintenance, and trouble shooting. Keep this manual for future reference.

If you experience problems during installation, do not hesitate to call ACS Industries, Inc. at **1-800-321-2348**. Problems can usually be resolved quickly with assistance from the factory. Also, solutions are usually easier when a problem is detected early.

PRE-INSPECTION

Immediately upon receipt of your Series 1000 coupler, inspect it for possible damage resulting from shipment. Give special attention to the following:

- 1.) Check all bolts, nuts, and pins for tightness.
- 2.) Check for cylinder and/or plumbing damage.
- 3.) Check the coupler weldment for damage or misalignment of components.
- 4.) Check the parts list to verify that it is complete.
- 5.) Check the hydraulic kit components for any damage from shipment.
- 6.) **IF DUMP AND/OR ROLLBACK STOPS ARE SHIPPED LOOSE**, they must be properly installed on the coupler/male master before use of the coupler system. Check to be sure that the appropriate stops are provided for your loader. (You can compare with the loader's original equipment manufacturer's bucket, or check the vehicle owner's manual.)






If you have any questions, concerns, and/or problems, please contact ACS Industries, Inc. at:
1-800-321-2348



SAFETY RULES



OBSERVE THESE SAFETY PRECAUTIONS AT ALL TIMES!!!

-  **NEVER** stand under an attachment or beneath elevated loads.
-  **DO NOT** attempt to connect or disconnect hydraulic lines while the system is pressurized.
-  **DO NOT** continue to operate coupler system or attachment if it becomes cracked or broken.
-  **BE SURE** the coupler locking pins are fully engaged into the female adaptor before operating the attachment.
-  The hydraulic operating pressure to the coupler system **MUST NOT** exceed 3000psi.

CAUTION!!!

YOUR WARRANTY COULD BECOME VOID IF ANY ATTEMPT IS MADE BY ANYONE TO REPAIR, MODIFY, OR DISASSEMBLE THIS COUPLER SYSTEM WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF ACS INDUSTRIES, INC.

PLEASE NOTE

ACS Industries, Inc. will not be responsible for damages that result from one or more of the following:

1. Exceeding weight or operation limitations of the loader.
2. Misuse of coupler system, including, but not limited to:
 - a. Lifting objects without an attachment.
 - b. Improper operation.
 - c. Welding, burning, or grinding on coupler system without prior written authorization and written procedure from ACS Industries, Inc.
3. Improper pre-delivery inspection and/or plumbing.
4. Continued use of coupler system after malfunction.
5. Improper installation of dump or rollback stops if supplied loose with the coupler system.

Our service engineering staff is ready to assist you. Please call ACS Industries, Inc. before attempting any repair, modification, or questionable job application.

COUPLER UNIT INSTALLATION

ATTENTION!!!

BEFORE INSTALLING THIS COUPLER AND KIT, BE SURE YOU HAVE READ ALL OF THIS MANUAL AND THE MACHINES OPERATORS MANUAL INSTRUCTIONS. BE SURE THAT YOU UNDERSTAND THE OPERATION OF THE MACHINE AND THE COUPLER.



STEP 1: REMOVING THE PIN-ON BUCKET

Lower the bucket until it rests flat on the ground. Loosen the pin locks (for example: locking bolts, snap rings, or pin clips) and remove the center (or upper) pin(s), which connects the tilt arm linkage to the bucket. Remove pins carefully to avoid damage to the contact surface, threads, or lubrication fittings. Save these parts to re-use with the coupler/male master. Carefully roll the bucket forward so that the hinge plates face upward. Loosen the pin locks and remove the lower pins, which connect the lift arm linkage to the bucket, carefully to avoid damage. Move the loader away from the bucket.

STEP 2: PINNING ON THE MALE MASTER

Using a chain hoist, position the coupler/male master in front of the loader with the snout pointing upward and the pin holes in the linkage are in line with the pin holes of the coupler/male master. Install the bucket pins through the lift arm linkage and the coupler/male master pin holes. Secure the pins with the pin locks.

STEP 3: CHECKING STOP LOCATIONS

The coupler/male master will include rollback and/or dump stops if they were incorporated on the loader's originally supplied bucket. Cycle the coupler/male master to verify that the rollback stops and dump stops are properly positioned and that they make even contact on all mating surfaces. **IF THE STOPS WERE SHIPPED LOOSE**, install them according to the enclosed instructions.



CAUTION!!!



****SPECIAL NOTE FOR COUPLER/MALE MASTERS WITH DUMP STOPS****

IF THERE IS A DUMP STOP BETWEEN THE BELLCRANK AND THE LOADER ARM CROSS TUBE, IT MUST MAKE CONTACT AT THE SAME TIME OR BEFORE THE DUMP STOPS ON THE MALE MASTER MAKE CONTACT WITH THE LOADER ARMS. THE COUPLER COULD BE DAMAGED IF THE DUMP STOPS ON THE MALE MASTER MAKE CONTACT FIRST, OR IF THE HYDRAULIC PRESSURE OF THE LINKAGE CYLINDERS IS ALLOWED TO FLEX OR BEND THE COUPLER FRAME.

BE SURE TO CHECK FOR INTERFERENCE OF ANY KIND BETWEEN THE LOADER AND THE COUPLER/MALE MASTER OR ATTACHMENTS.

HYDRAULIC KIT INSTALLATION

Please review the hydraulic schematic, the hose kit installation drawing, and the male master/coupler parts drawing before installing the hose kit.

Tighten all fittings securely. Use a thread sealant on all pipe, (NPT) fitting threads. Teflon tape is not recommended.

Begin installation as follows:

- 1.) Insert all fittings into ports of male master/coupler cylinders and connect the hoses between male master/coupler cylinders to their respective fittings. (Be sure to check which side of the boom arms, L.H. or R.H., the hose routings will be for connection points of male master/coupler fittings and jump hoses) (Refer to Illustrations & Parts Lists)
 - 2.) Determine where the valve mounting bracket will be mounted. (Refer to Illustrations & Parts Lists) Grind paint off and weld bracket into place. Paint areas that were affected by welding operations using a paint that matches you machine color.
 - 3.) Insert all of the fittings into valve (Refer to Illustrations & Parts Lists). Mount valve to bracket using supplied hardware. Attach ground wire to one of the valve mounting bolts.
 - 4.) Determine where hose clamps will be mounted. (Refer to Illustrations & Parts Lists) Grind paint and weld the clamp bases to the specified side of boom arm.
 - 5.) Paint areas that were affected by welding operations using a paint that matches you machine color.
 - 6.) Connect hoses at ports "A" and "B" in the valve. Route the hoses down boom arm through the hose clamps. Check hoses for proper slack (1" to 2" of slack is sufficient) to allow for pressurization.
 - 7.) Connect jump hoses to "A" and "B" hoses. (Connect "A" hose to pressure/extend jump hose. Connect "B" hose to return/retract jump hose). Connect opposite side of the jump hoses to the appropriate connections on the male master/coupler. (Refer to Illustrations & Parts Lists)
 - 8.) Connect "tie-in" hoses (pressure and return/tank) to the proper areas according to the hoses and fittings installation drawing. (Refer to Illustrations & Parts Lists)
- *- Be sure that hose assemblies will not be subjected to kinking or abrasion, which could cause coupler malfunction or loss of pressure.**
- 9.) Mount the rocker switch in the dash. (See valve and switch installation drawing pages 16 & 17).
NOTE: Be sure to locate the switch decal in a highly visible location near the switch.
 - 10.) Route the specified wire assembly from the valve to the rocker switch and route it to a constant power source in the dashboard power system that will turn off when the ignition is off.
Attach securely.
 - 11.) Start loader and check pin actuation. If the pins do not actuate properly, make sure the hoses have been connected properly according to the drawings and instructions.

 DO NOT OPERATE COUPLER UNTIL ANY PIN ACTUATION PROBLEM IS COMPLETELY RESOLVED.

HOSE KIT INSTALLATION (cont.)

12.) Make a final check of all hoses for interference and proper slack.

13.) Check for leaks. Make sure all connections are securely tightened.

OPTIONAL 3RD FUNCTION JUMPER HOSE KIT (Refer to Illustrations & Parts Lists):

Install the bulkhead fitting with pipe thread up and the nut on the underside of the bulkhead plate. Connect and route jumper hoses from third function termination point (tube or hose) at the end of the loader lift arms to the bulkhead fittings at bulkhead plate on the male master/coupler. Slide the dust plug and cap loop over the fitting before installing the quick disconnect fittings. NOTE: Be sure to protect these fittings with the provided dust plug and cap when not in use to prevent contamination of hydraulic fluid.

OPERATION OF COUPLER

TO ENGAGE ATTACHMENT:

- To retract pins, roll male master/coupler back to stops bypassing operating pressure. Hold the attachment over relief. While the oil is bypassing, engage the rocker switch to retract pins.
- Position loader behind attachment.
- Position coupler so that snout on coupler/male master engages under triangular alignment bar on the back of attachment.
- Raise the attachment off of the ground, making sure snout is engaged under alignment bar. It is not necessary to have a perfect fit, the coupler will self align.
- Jiggle lift arms or tilt arm, if necessary, to assure alignment.
- Roll the attachment back over relief and hold. Move rocker switch to the engaged position to extend pins, locking coupler/male master to the attachment. (Verify the locking cylinder sight rods are fully retracted into each cylinder.)

***NOTE: Both pins MUST be fully engaged to assure safe operation of coupler with attachment**

- Tilt the attachment forward at ground level to assure that the pins are fully engaged before operating the attachment.
- Leave toggle switch in the engaged position while operating the attachment.
- If using a hydraulic attachment, connect jumper hoses to quick disconnect fittings at bulkhead plate on the coupler/male master.

OPERATION OF COUPLER (cont.)

TO DISENGAGE ATTACHMENT:

- If using a hydraulic attachment, disconnect jumper hoses from quick disconnect fittings on coupler/male master and replace dust cap and plug. Snap together quick disconnect fittings on attachment jumper hoses to protect them.
- While attachment is off of the ground, rolled back, and oil has bypassed relief, move rocker switch to retract pins. Jiggle lift arms or tilt arm, if necessary, to assure that pins retract fully.
- Lower attachment to the ground.
- Tilt the coupler/male master forward while backing up loader, thus disengaging snout of coupler/male master from triangular alignment bar on the attachment.

⚠ DO NOT attempt to engage attachment with pins extended.

⚠ DO NOT extend pins until the attachment is completely off the ground, rolled back, aligned with male master, and the hydraulic oil is bypassing relief.

⚠ DO NOT attempt to retract pins with attachment on ground or in dump position.

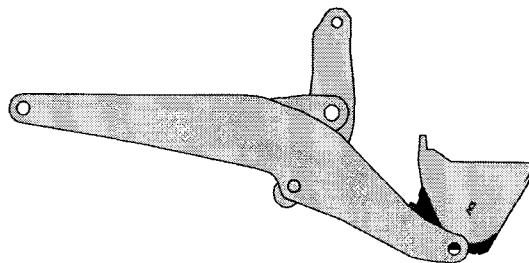
⚠ MAKE SURE that the surfaces of both male and female components are free from dirt and/or debris before attempting to couple.

⚠ MAKE SURE that the locking pins are fully engaged into the female coupler prior to operation.

⚠ ALWAYS operate the coupler system using the rocker switch with the pins extended position.

⚠ CAUTION!!! ⚠

ANY USE OF THE COUPLER/MALE MASTER WITHOUT AN ATTACHMENT, INCLUDING, BUT NOT LIMITED TO LIFTING OR PUSHING, IS NOT AUTHORIZED, AND MAY RESULT IN DAMAGE TO THE COUPLER THAT WILL NOT BE COVERED UNDER WARRANTY.



ATTACHMENT MUST BE ROLLED BACK FOR COUPLING/UNCOUPLING.

TROUBLESHOOTING

Note: Insufficient tightening or other human error causes most hydraulic connection leaks. Check leaking connections for correct torque before disconnecting the line and looking for other causes.

<u>PROBLEM</u>	<u>CAUSE</u>	<u>SOLUTION</u>
Leaks at fittings	Damaged threads or seating surface on flare fittings	Replace fitting
	Damaged "O"-ring	Replace "O"-ring
Coupler/Male Master pins will not retract	Leaking or broken hoses or fittings	Adjust or replace
	Broken lock cylinder, or worn packings in cylinder	
	Faulty Valve	
Cylinder will not hold pressure	Worn packings in cylinder	Replace packing

MAINTENANCE SCHEDULE

DAILY OR EVERY 10 HOURS	WEEKLY OR EVERY 100 HOURS	MONTHLY OR EVERY 200 HOURS
Visually inspect for broken or loose bolts, hydraulic leaks, or damage to any part of coupler or attachments	Check coupler operation for faulty movement and/or unusual noises.	Check and re-torque all nuts and bolts. Re-apply Loc-Tite
Grease coupler locking pins, even when coupler is not actively in use. First, clean off grease fittings, then apply grease with the pins retracted. Then apply grease with the pins extended. Cycle pins to assure complete distribution of grease.	Inspect all hydraulic hoses for leaks or for damage to outer covering.	
Grease lift arm and tilt arm grease fittings where provided by loader manufacturer.	Inspect all hydraulic fittings, valves, and components for signs of leakage or weeping..	Inspect all welds.

! CAUTION !

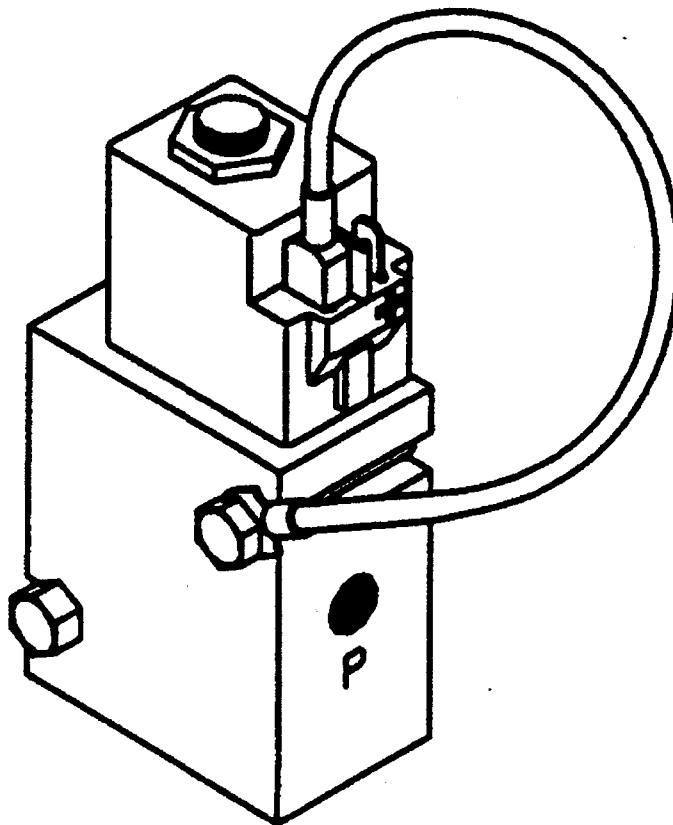
The solenoid valve coil has an encased diode that acts to suppress the coil.

Because of the diode, the coil must be connected correctly.

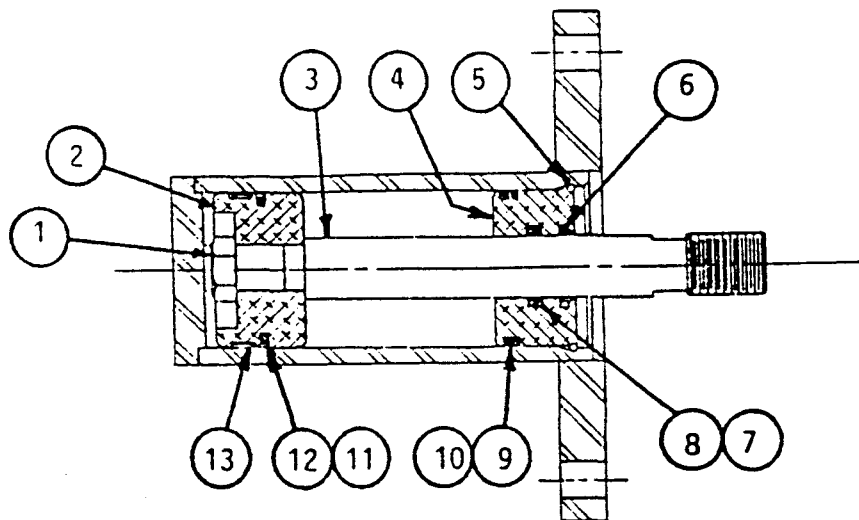
The terminals on the coil are marked for proper polarity.

The terminal marked with a “+” must be connected to the positive side of the battery. This is the wire coming from the coupler control switch.

The unmarked terminal of the coil must be connected with the negative side of the battery. This is the ground.



#600740 &
#600745
MALE MASTER LOCKING CYLINDER

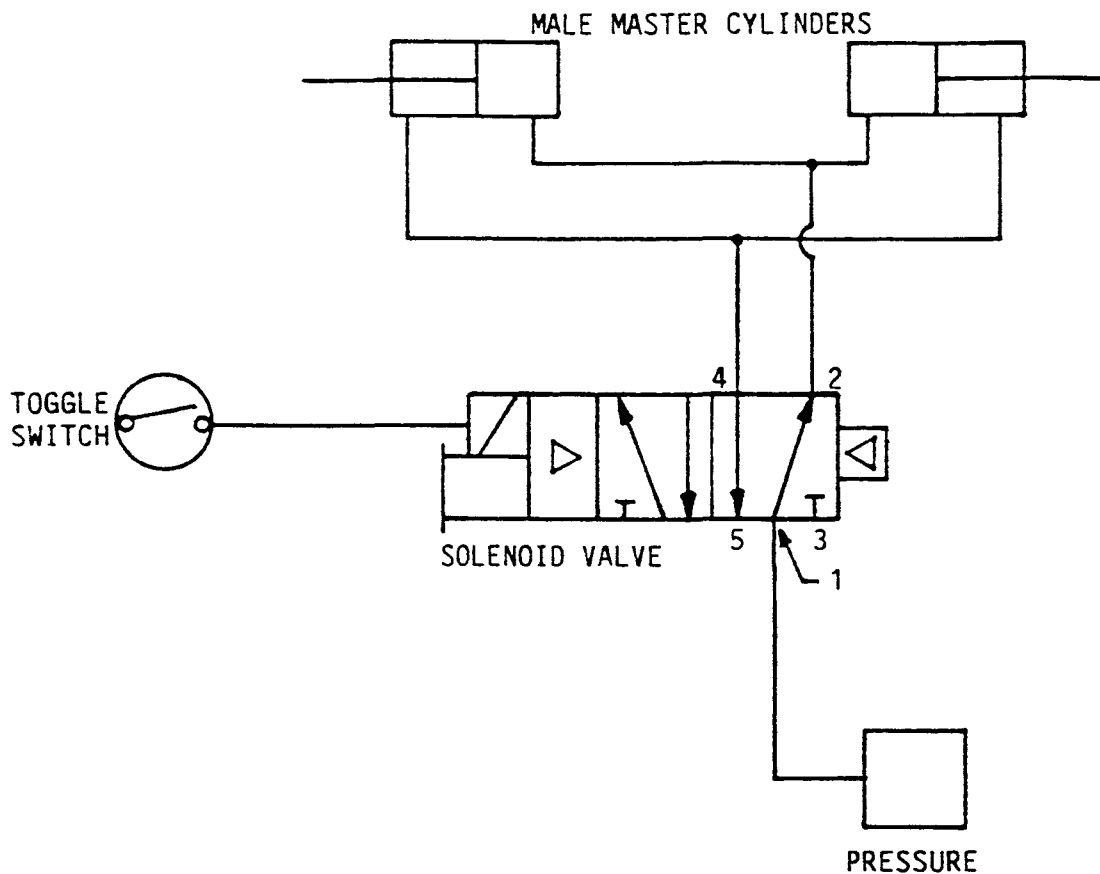


ITEM	DESCRIPTION	PART NO.	QTY.
1	LOCK NUT	600725	1
2	PISTON	600723	1
3	ROD ASSEMBLY	600721	1
4	GLAND	600732	1
5	SNAP RING	600728	1
6	WIPER	*	1
7	BACK-UP RING	*	1
8	O-RING	*	1
9	BACK-UP RING	*	1
10	O-RING	*	1
11	O-RING	*	1
12	SEAL RING	*	1
13	WEAR RING	*	1
14	O-RING	*	1

* ITEMS 6, 7, 8, 9, 10, 11, 12, 13, & 14 ARE NOT
SOLD SEPARATELY. ORDER SEAL KIT PART NO. 600714.

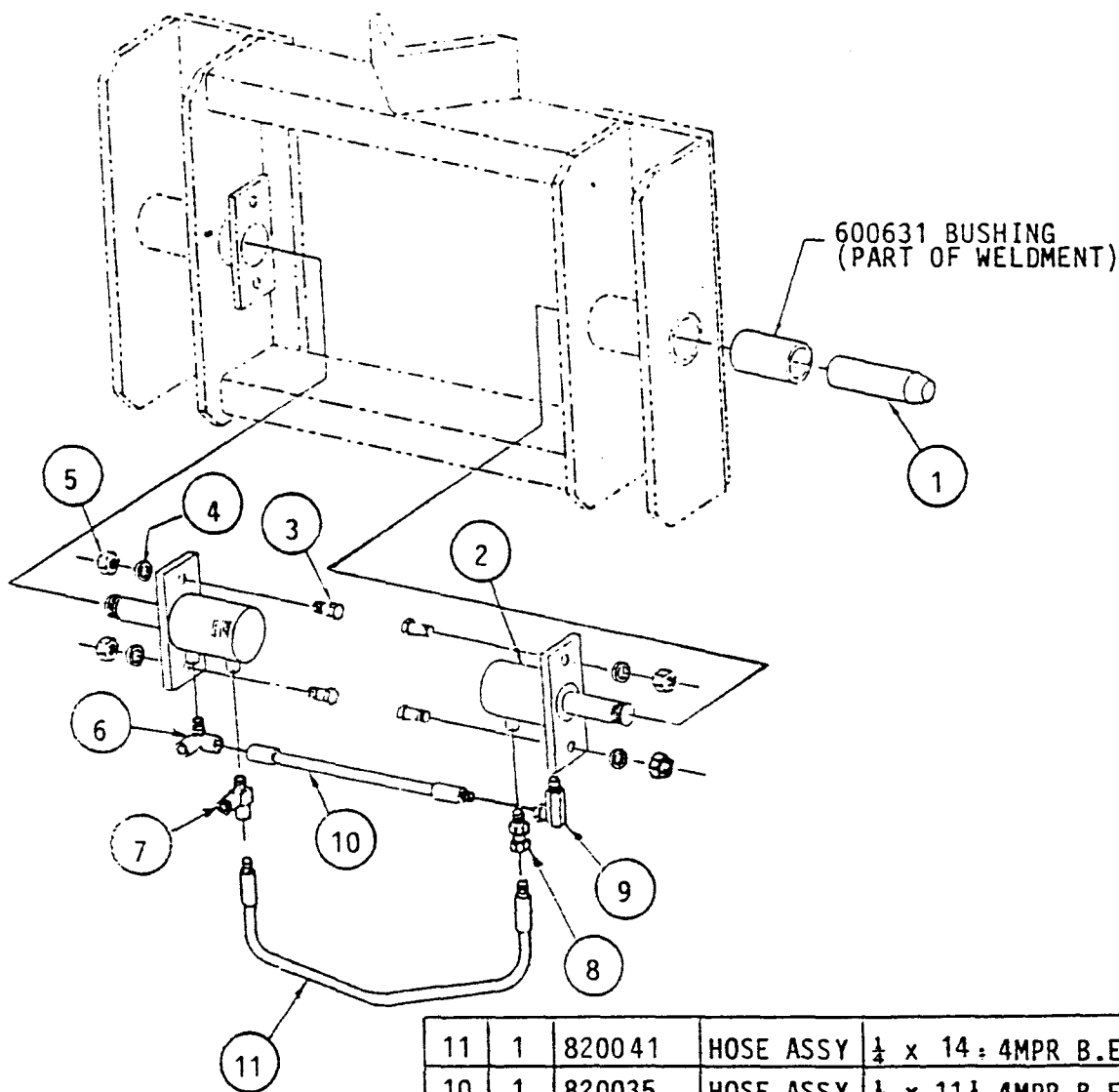
PIPING SCHEMATIC

CAUTION!
 WHEN POWER IS OFF, PINS MUST BE EXTENDED.
 MAKE SURE PORT "2" IS CONNECTED TO THE CYLINDER BASE END.



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	DRAWN	RZL	2/9/90	NAME	DRAWING NO.
	CHECKED			PIPING SCHEMATIC AIR	SK-7762

MALE MASTER PARTS AND PIPING



NOTE: MALE MASTER SHOWN
IS AN APPROXIMATION

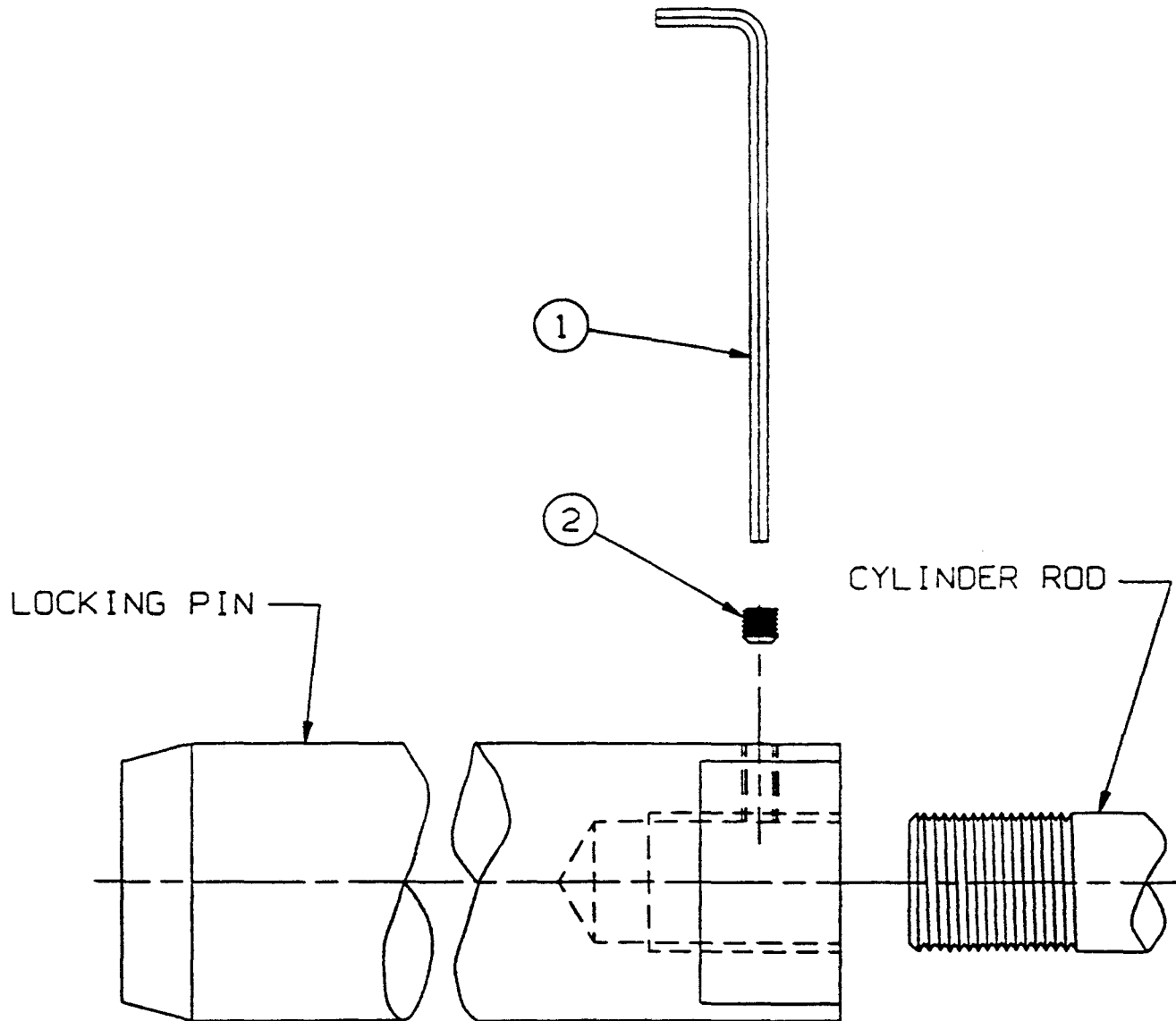
ITEMS MARKED WITH *
TO BE PREASSEMBLED
BY ACS

11	1	820041	HOSE ASSY	$\frac{1}{2}$ x 14: 4MPR B.E.	
10	1	820035	HOSE ASSY	$\frac{1}{4}$ x 11 $\frac{1}{2}$ 4MPR B.E.	
9	1	800553	90° ELBOW	4MPR x 4FPS	
8	1	800533	ADAPTOR	4MPR x 4FPS	
7	1	800540	TEE	4MPR x 4FPR x 4FPR	
6	1	800539	TEE	4FPR x 4FPR x 4MPR	
5	4	670180	NUT	$\frac{1}{2}$ - 13NC	*
4	4	680180	LK WASHER	$\frac{1}{2}$	*
3	4	660520	BOLT	$\frac{1}{2}$ - 13NC x 2	*
2	2	600740	CYLINDER	A-2082	*22
1	2	SK-3373	PIN		*12
ITEM	REQ'D	PART/DWG N°	PART NAME	DESCRIPTION	WT

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	DRAWN	CDN	1-18-96		DRAWING NO.
	CHECKED				595753

IMPORTANT NOTICE:

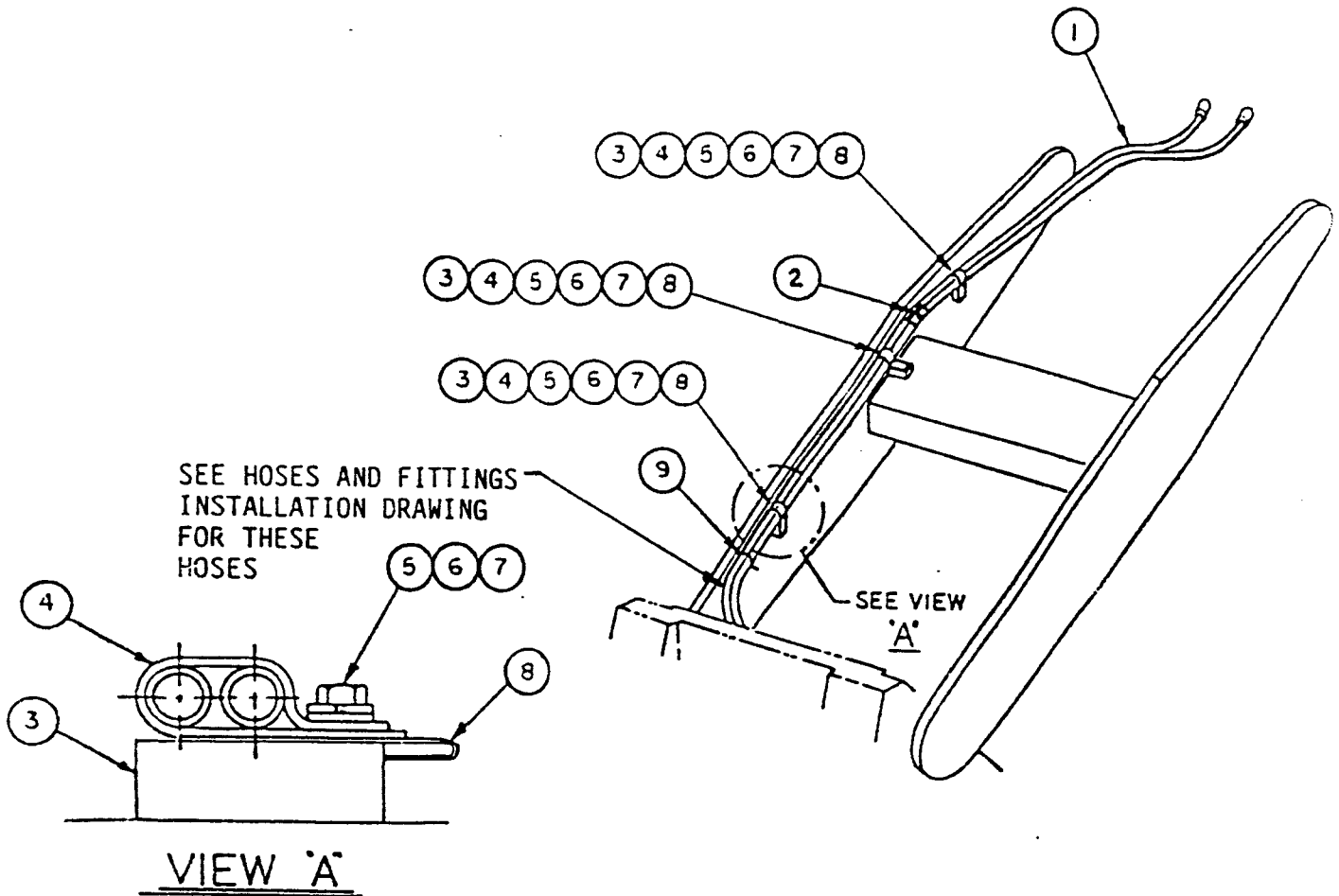
WHEN ASSEMBLING LOCKING PIN TO CYLINDER ROD, BE SURE THAT SET SCREW IS TIGHTENED SECURELY AGAINST THE THREADS OF THE CYLINDER ROD.



2	1	673950	SET SCREW	
1	1	673955	HEX KEY	LONG ARM
ITEM	Q'TY	PART NO.	PART NAME	DESCRIPTION

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	DRAWN	JS	1/9/92	ACS ASBURY SABINE		DRAWING NO.		
	CHECKED			NAME SET SCREW INSTALLATION SIZE 10-60		SK-9039		

JUMPER HOSES AND HARDWARE



9	10	640050	WIRE TIE		
8	3	676320	SPEED NUT	3/8-16NC	
7	3	691140	WASHER	3/8	
6	3	680140	LKWASHER	3/8	
5	3	660298	BOLT	3/8-16NC x 3/4	
4	3	800651	P-CLAMP	1/2	
3	3	800667	BRACKET	SK-5993	
2	2	800534	CONNECTOR	4FPS x 4FPR	
1	2	820010	HOSE ASSY	1/2 x 6' 4MPR BE w/Guard	
ITEM	REQ'D.	PART/DWG NO.	PART NAME	DESCRIPTION	

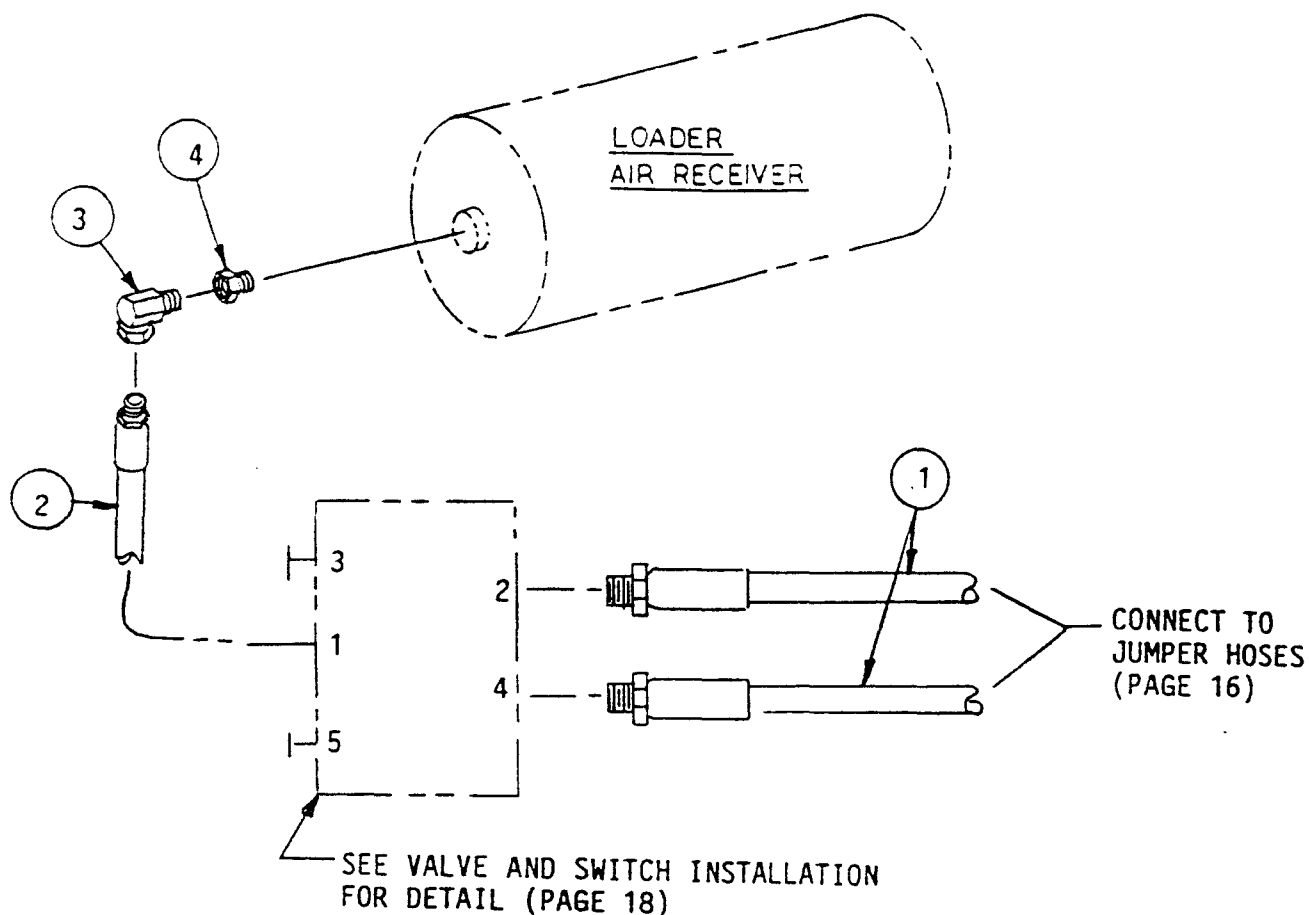
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	NAME	DATE
DRAWN	RZL	2/10/90
CHECKED	RJB	3-27-90

American Coupler Systems, Inc.
ACS. Kent, Ohio **ASBURY.**
 NAME JUMPER HOSES AND HARDWARE
 AIR

PART NO. 595100
 DRAWING NO. SK-7803LH

HOSES AND FITTINGS INSTALLATION



4	1	800554	BUSHING	4FPR x 6MPR	
3	1	800553	90° ELBOW	4MPR x 4FPS	
2	1	820040	HOSE ASSY	$\frac{1}{2}$ x 8' 4MPR B.E.	
1	2	820005	HOSE ASSY	$\frac{1}{2}$ x 15' 4MPR B.E.	
ITEM	REQ'D.	PART/DWG NO.	PART NAME	DESCRIPTION	WT

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	NAME	DATE
DRAWN	RZL	3/15/90
CHECKED	RJB	4-10-90

American Coupler Systems, Inc.
ACS. Kent, Ohio **ASBURY.**

NAME HOSES AND FITTINGS
 SIZE 20 - AIR

PART NO. 596020

DRAWING NO. SK-7819

VALVE AND SWITCH INSTALLATION

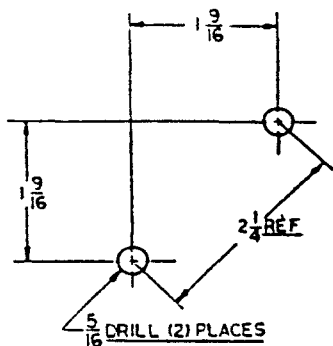
FASTEN TO A CONSTANT POWER SOURCE
IN THE DASH BOARD POWER SYSTEM
THAT WILL TURN OFF WHEN THE
IGNITION IS OFF

INSTALL SWITCH IN
INSTRUMENT PANEL

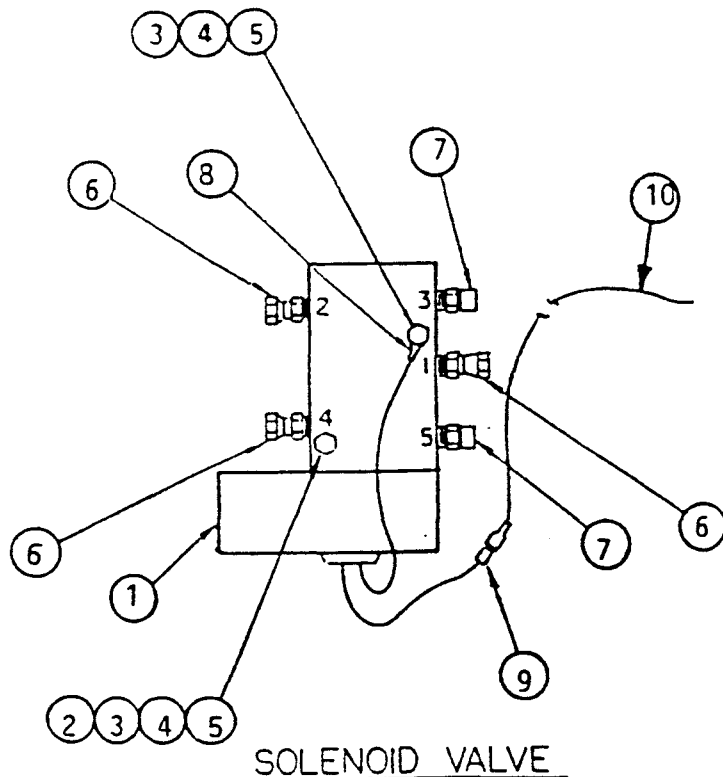
PLACE DECAL IN
CONVENIENT LOCATION
NEAR TOGGLE SWITCH

50 DRILL

SWITCH INSTALLATION



HOLE PATTERN FOR
MOUNTING VALVE



SOLENOID VALVE

13	1	800700	DECAL		
12	1	870102	SWITCH		
11	1	880004	WIRE ASSY	#14 GA x 8'	
10	1	880038	WIRE ASSY	#14 GA x 9'	
9	1	874106	TERMINAL		
8	1	873105	CRIMP RING		
7	2	800663	EXHAUST	4MPR	
6	3	800533	ADAPTER	4MPR x 4FPS	
5	2	670100	NUT	1/4-20NC	
4	2	680100	LKWASHER	1/4	
3	2	660190	BOLT	1/4-20NC x 1 3/4	
2	1	800790	BRACKET	SK-7195	
1	1	800666	VALVE	12V	
ITEM	REQ'D	PART/DWG NO.	PART NAME	DESCRIPTION	WT

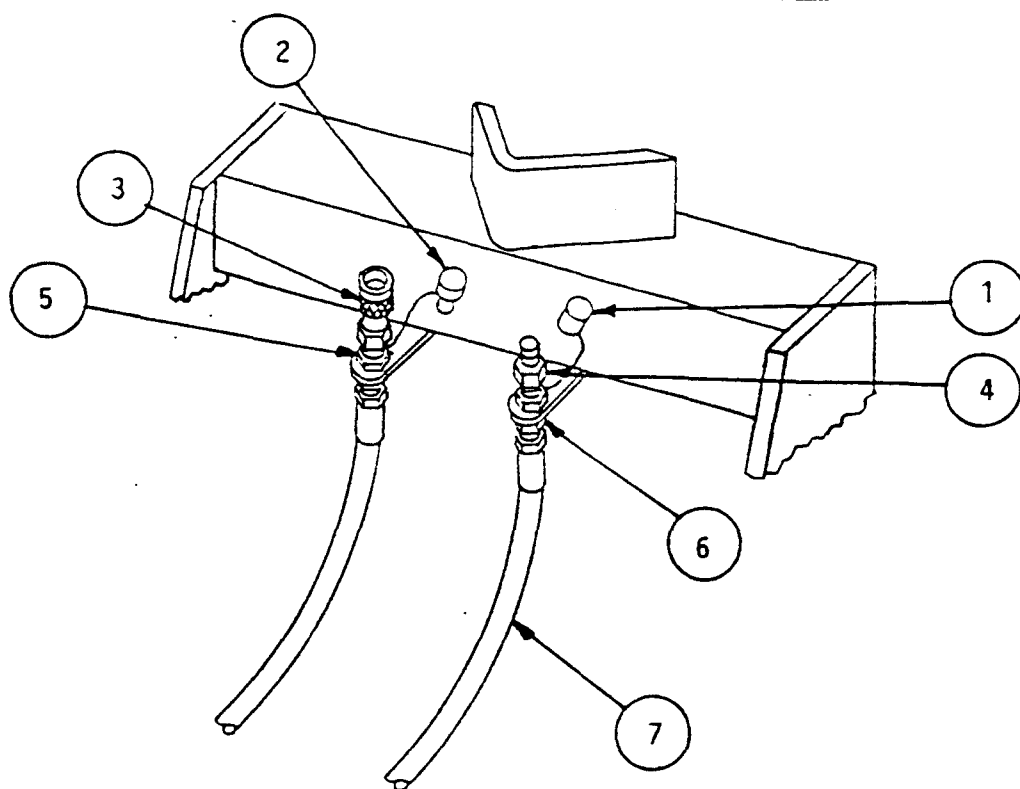
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AMERICAN COUPLER
SYSTEMS, INC. AND IS TO BE
RETURNED UPON REQUEST.

NAME	DATE
DRAWN RZL	2/21/90
CHECKED TD	3/23

American Coupler Systems, Inc.
ACS. Kent, Ohio **ASBURY.**
NAME AIR
VALVE AND SWITCH INSTALLATION
12 VOLT

PART NO.
595200
DRAWING NO.
SK-7805

OPTIONAL THIRD FUNCTION JUMPER HOSE KIT



ITEM	QTY	PART/OWG NO.	PART NAME	DESCRIPTION	WT
7	2		HOSE ASSY		
6	2	800628	NUT	BULKHEAD	
5	2	382502	FITTING	BULKHEAD 12MPR x 12MJR	
4	1	800631	MALE	QUICK DISCONNECT	
3	1	800631	FEMALE	QUICK DISCONNECT	
2	1	800633	DUST PLUG		
1	1	800632	DUST CAP		

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	NAME	DATE
DRAWN	DLP	2-15-91
CHECKED	JS	2/21/91

American Coupler Systems, Inc.
ACS. Kent, Ohio **ASBURY.**
 NAME OPTIONAL THIRD FUNCTION
 JUMPER HOSE KIT 360/
 SWINGMASTER 181/PETTIBONE 442

PART NO. 598088
 DRAWING NO. SK-8539



DEALER WARRANTY PROCEDURE

Call the ACS Industries, Inc. Warranty Coordinator at 1-800-321-2348 immediately upon learning of a potential warranty problem. Prior approval by ACS is required for all warranty work. Repairs undertaken without the express prior approval of the ACS Warranty Coordinator are done at your own cost and risk and with the possibility of invalidating any remaining warranty on the product(s).

In response to your phone call, the Warranty Coordinator will, in a timely manner:

- Collect all pertinent information, including photos, if necessary.
- Evaluate the problem and promptly advise you verbally and in writing:
 1. What repairs are necessary
 2. The repair procedure
 3. Parts required for repair
 4. Time allowance for repairs
- Or, in certain instances, the Warranty Coordinator may request the return of the product to the ACS factory for repairs. In the event where an ACS product or component must be returned, ACS will send/fax a Return Goods Authorization (RGA) to claimant. Please refer to the RGA number on all shipping documents and future correspondence
- Where applicable, the Warranty Coordinator will immediately provide required replacement parts, billing the claimant for the parts pending return and evaluation of the defective parts (also requiring an RGA). If the returned parts are deemed defective, a credit will be issued against the parts invoice. All defective parts must be returned to ACS freight prepaid.
- Approved dealer labor expense will be reimbursed with a credit memo against future business with ACS.

GOALS OF THE ACS INDUSTRIES, INC. WARRANTY POLICY

- **ASSURE MINIMUM CUSTOMER DOWNTIME** by resolving the problem correctly and quickly.
- **ASSURE END USER CONFIDENCE** while maintaining an equitable warranty expense for both your dealership and ACS
- **CONTINUOUS PRODUCT IMPROVEMENT**

April 1, 2001



Standard Service Products WARRANTY POLICY

American Coupler Systems, **MANN** **PAC** PROGRESSIVE ATTACHMENTS

ASBURY **SABINE**

SCOPE: ALL ACS COUPLER SYSTEMS, GENERAL AND HEAVY-DUTY ATTACHMENTS FOR WHEEL AND CRAWLER LOADERS, EXCAVATORS, COMPACT EXCAVATORS AND TRACTOR-LOADER-BACKHOES

EXCLUSIONS: DOZER ATTACHMENTS (INCLUDING RIPPERS); SEVERE-DUTY EXCAVATOR BUCKETS AND THUMBS; HYDRAULIC EXCAVATOR COUPLERS USING RIPPER TEETH OR HAMMERS; DEMOLITION GRAPPLES; ROCK BUCKETS FOR WHEEL LOADERS AND ALL OTHER ATTACHMENTS DESIGNATED SEVERE SERVICE BY ACS AT THE TIME OF SALE

ACS Industries, Inc. (ACS) warrants its products to be free from defects in material or workmanship for a period of (12) twelve months or 2000 hours whichever comes first. The warranty period will begin on the documented date that the attachment is first placed in service. If this documentation is not available then the period will commence on the date the attachment was shipped from an ACS factory. ACS products must be utilized in approved applications, defined as applications for which the attachment was originally designed and use intended for use by ACS. Installation must have been properly performed according to ACS instructions and training given in the safe operation and proper use of each product as appropriate.

ACS will, at its option, repair or replace, FOB factory, any standard or heavy-duty product that in its judgment is defective.

Where a service part has failed it shall be the policy of ACS to send a replacement part and an invoice for that part. Upon return of the original part to ACS, a credit will be issued to the dealer if, after examination by ACS, the part in question is judged defective.

ACS will make allowances for work performed on products deemed defective after examination of the defective product either by having the attachment returned to our factory, freight prepaid, or by photographic evidence clearly showing the problem area and/or details of failure. **Written approval is required from ACS PRIOR to the performance of all warranty work, in order for a warranty claim to be honored.**

Warranty will **NOT** apply to:

1. Failures that in ACS's determination were the result of misapplication or misuse (see operator's guide), negligence, lack of appropriate user training, accidental damage, failure to perform maintenance required by the maintenance manual, and/or improper installation.

2. Component parts not manufactured by ACS, including all wear parts (e.g. base and bolt-on edges, sidecutters, teeth and adaptors) will carry the warranty extended by the supplier; ACS responsibility for these items will equal the warranty offered by the supplier.
3. Any equipment that has been repaired or altered in any manner without the express written approval of ACS will void all warranty.

Once a product is determined to be defective and it has been determined it can be field repaired, ACS will provide parts (if necessary), a written repair procedure and will authorize maximum time allotted to accomplish the repair via a Warranty Claim and Authorization Form.

Labor will be paid at 70% of the Dealer's retail labor rate, subject to change without notice. No provisions will be made for incidental or consequential damages, mileage, travel time, overtime, downtime, or special freight charges. Please refer to ACS Dealer Warranty Procedure.

In the event where an ACS product or component must be returned, ACS will send/fax a Return Goods Authorization (RGA) to claimant. Please refer to the RGA number on all shipping documents and future correspondence

Approved dealer warranty expense will be reimbursed with a Credit Memo against future business placed with ACS.

ACS Industries, Inc. reserves the right to make changes of any type to its products at any time without obligation to make changes or alterations to products previously sold. ACS also reserves the right to alter this warranty policy and/or its terms at any time. This warranty is in lieu of all other/or previous warranties either express or implied. No other persons or company is authorized to act on behalf of ACS or authorized to assume for ACS any liability in connection with the sale and use of ACS products other than as set forth herein.

April 1, 2001