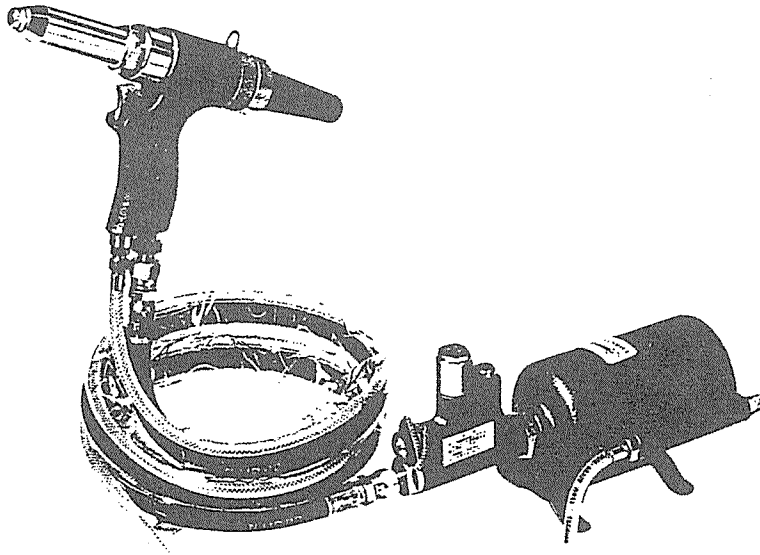


# PNEUMATIC-HYDRAULIC RIVETER

*Heavy Duty, Remote Type* **AR-012**  
IMPROVED VERSION

## OPERATING INSTRUCTIONS AND PARTS LIST



## INTRODUCTION

This manual describes the detailed specifications and maintenance instructions of model 'AR-012' Remote type tool.

AR-012 Remote type Tool offer the proven design for the most demanding riveting requirements on production lines.

Before using this tool, it is recommended that you read this manual carefully to ensure effective and satisfactory operation of your riveting tool.

If you need further assistance, please contact your Lobster dealer or write us directly.

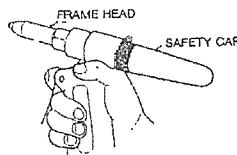
## SAFETY INSTRUCTIONS

AR-012 Tool shall only be used to install standard blind rivets sizes 2.4mm(3/32") to 6.4mm(1/4") in Aluminum, Copper, Steel, Model and Stainless Steel. Please refer to the 'Adaptable Combination' mentioned in the Nose Piece Assembly column for the correct pulling head assembly.

It shall be at all times be operated in accordance with recognized safe workshop practice. The tool must be maintained in a safe working conditions at all times.

Do not dismantle your tool without prior reference to the dismantling instructions contained in this manual. The precautions to be observed when using this tool must be explained by the customer to all operators. Specific points to be observed are:

1. Do not operate your tool that is directed towards any person.
2. Keep air line pressure within the limits. See specifications.
3. The tool shall not be operated without undamaged Safety Cap (#21) and or Frame Head (#2).
4. No equipment shall be used with this tool other than recommended and supplied by Lobster.
5. Always disconnect the air supply from the tool before attempting to make any adjustment or dismantling the tool for service etc.
6. The tool shall be examined at regular intervals for damage and function. Any question regarding the correct operation of tools and operator safety should be directed to your local Lobster dealer or write us directly.
7. Care shall be taken to ensure that spent mandrels are not allowed to create a hazard. It is highly recommended to install a 'VACUUM UNIT model VU-H48' to organize your work area and boost productivity.
8. Any modifications to tools and equipment undertaken by the customer shall be at his entire responsibility. However, Lobster will be very pleased to advise upon any proposed modification.
9. Always wear eye protection when using this tool.



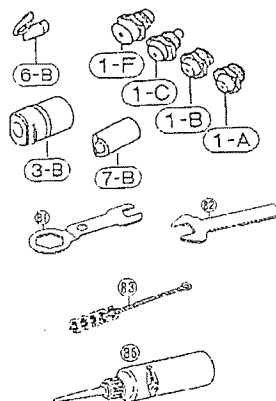
## DESCRIPTION

AR-012 is a high production tool developed for the easy and rapid installation of blind rivets. AR-021 consists of hand operated pistol and a remote Pneumatic-Hydraulic pump. The light weight pistol enables riveting at relatively inaccessible points and at close quarters, and

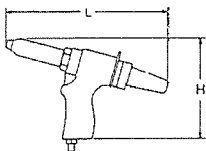
thus minimizes operator's fatigue.

AR-012 also offers advantage that during priming of hydraulic oil, no dismantling of the tool is required i.e., the remote pump has a built-in Reserve Oil Tank.

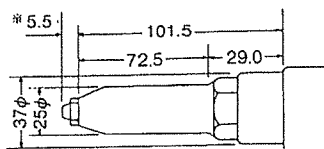
## SPECIFICATIONS

Riveting Capacity	2.4mm (3/32") to 6.4mm (1/4") in all materials
Traction Power	1,300 Kgs (2,800 Lbs): 12,750N
Stroke	16mm (0.630")
Working Air Pressure	6.0 - 6.5 Kg/cm <sup>2</sup> (85 - 92 p.s.i.)
Air Consumption	2.9 liter/cycle (0.102 ft <sup>3</sup> )
Hydraulic Hose Length	1.5 Meter (Standard)
Pistol Weight	0.55 Kg (1¼ Lbs)
Pistol Dimensions	H = 136mm (5.35"), L = 227mm (8.94")
Auxiliary Kit	<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;">  </div> <div style="flex: 2; padding-left: 10px;"> <p><u>5 Nose Pieces:</u> 2.4mm (3/32"),                    3.2mm (1/8"), 4.0mm (5/32"),                    *4.8mm (3/16"), 6.4mm (1/4")</p> <p><u>2 Jaws:</u> **M* Jaws,                    'H' Jaws for 6.4mm(1/4) Jaw Pusher, Jaw Case Head for 6.4mm (1/4")</p> <p><u>2 Spanners:</u> Spanner A &amp; Spanner B</p> <p><u>Accessories:</u> Air Hose Joint 1/4 Air Hose Joint Nut Cleaning Brush <b>OPTION</b> Hydraulic Oil -150c.c Bottle * Fitted on the Tool</p> </div> </div>

### PISTOL DIMENSIONS:



### FRAME HEAD DIMENSIONS (mm):



\* For 6.4 Nose Piece Length is 7.5mm

## PRINCIPLE OF OPERATION

When the tool is connected to a proper air supply and the trigger is depressed, air pressure acts upon the air piston in the remote pump and moved it upward. The piston rod inside the remote pump serve as a hydraulic piston and acts on a volume of hydraulic oil in the pistol. Pressurized hydraulic oil is forced to move the oil piston in conjunction with the nose assembly to start blind rivet installation.

When the blind rivet installation is completed, the trigger is released. The return springs behind the oil piston returns it to its starting position. Hydraulic oil is forced out of the pistol and returns the hydraulic oil and air piston of the remote pump to their starting positions. The air in the air cylinder of the remote pump is also forced out through the outlet.

The spent mandrel should be cleared by tilting the pistol forward or backward, allowing the spent mandrel to slide out. The tool is then ready to set another rivet.

**CAUTION:**  
**DO NOT INSERT ANOTHER RIVET UNTIL THE PREVIOUS MANDREL IS CLEARED OFF. FORCIBLY INSERTION OF NEW RIVET AT THIS STAGE MAY BREAK THE JAW.**

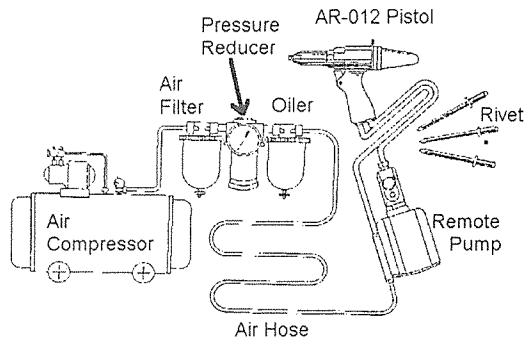
## PREPARING FOR OPERATION

AR-012 Tool leaves the factory fitted with 4.8mm (3/16") Nose Piece and 'M' size pulling head assembly. A simple change over of the Nose Piece is required to install 2.4mm(3/32"),

3.2mm(1/8") & 4.0mm(5/32") diameter rivets. For 6.4mm(1/4") riveting, it is required to change to 'H' size pulling head assembly and 6.4mm Nose Piece.

## AIR SUPPLY REQUIREMENTS

AR-012 tool is supplied ready for operation, filled with hydraulic Oil and only requires to be connected to compressed air mains. It is advisable, as with all compressed-air-actuated tools, to incorporate a compressed air maintenance unit (filter & mist lubricator) in the compressed air line, so as to increase the tool life. A pressure reducer must be fitted and set to a maximum pressure of 6.5 Kg/cm<sup>2</sup> (92p.s.i.).



**CAUTION:** DO NOT OPERATE THE TOOL AT PRESSURES EXCEEDING THE MAXIMUM SAFE WORKING AIR PRESSURE LIMITS MENTIONED IN THE SPECIFICATION COLUMN.

## GOOD SERVICES PRACTICES

Regular inspection and immediate repair of minor faults will keep the tool and pulling head assembly operating efficiently and prevent down time.

Daily before putting the tool into service, observe the following practices:

1. If a filter-regulator-lubricator unit is not being used, remove hose fitting from the









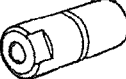


air inlet and drop in a few drops of light oil.

2. Blow out airline to remove dirt and moisture before connecting air hose to tool.
3. Clean pulling head assembly frequently.
4. Do not abuse the tool by dropping it, using it as a hammer or otherwise causing unnecessary wear and tear.

## PULLING HEAD ASSEMBLY

AR-012 tool leaves the factory fitted with 'M' size pulling head assembly and 4.8mm (3/16") Nose Piece. Before placing rivets, ensure that correct Nose Piece and pulling head assembly is fitted on the tool.

### ADAPTABLE COMBINATION:

Pulling Head	Rivet Size	Nose Piece		Jaw Case Head	Jaw	Jaw Pusher
<b>*M</b>	2.4mm (3/32")	001A (10213)		 <b>*003A</b> (20528)	 <b>*006A</b> (10117)	 <b>*007A</b> (10209)
	3.2mm (1/8")	001B (10214)				
	4.0mm (5/32")	001C (10215)				
	<b>*4.8mm</b> (3/16")	<b>*001D</b> (14350)	<b>*</b> 			
<b>H</b>	6.4mm (1/4")	001F (10226)		 <b>003B</b> (10223)	 <b>006B</b> (10201)	 <b>007B</b> (10224)

(\*FACTORY SETTING)

### FOR RIVETING

#### 2.4(3/32") to 4.8mm (3/16")

AR-012 tool leaves the factory fitted with 'M' size pulling head assembly and 4.8mm Nose Piece.

Please note that for installing 2.4(3/32"), 3.2(1/8"), and 4.0(5/32") rivets only a simple change over of the desired Nose Piece is required, without any further adjustment.

#### PROCEDURE:

1. Connect the tool to air supply.
2. Hold the Trigger(023) pressed until Nose Piece is unscrewed, replaced and re-tightened.
3. Nose Piece can also be changed by unscrewing the Frame Head(002).

### FOR RIVETING 6.4mm(1/4")

For setting 6.4mm(1/4") rivets, it is important to change the pulling head assembly to 'H' along with 6.4mm(1/4") Nose Piece followed by Jaw Case adjustment.

Change the Jaw Case Head, Jaw and Jaw Pusher of the 'H' size pulling head assembly.

#### PROCEDURE:

For procedure, please refer to 'HOW TO SERVICE JAW' in the maintenance procedures, described in the next chapter.

**CAUTION** MAKE A HABIT TO ADJUST THE JAW CASE SETTING WHENEVER TEND TO DISMANTLE THE JAW CASE(005).

# MAINTENANCE

AR-012 tool is despatched, tested and ready for use. It is strongly recommended that the Jaw mechanism be thoroughly lubricated at all times and particularly after the tool has been left standing for sometime. Daily, before putting the tool

into service, always bleed air to clear it of all accumulated dirt or water before connecting the tool to air supply. The prerequisite of effective operation of the equipment and effective riveting is the use of suitable Nose Piece and pulling head assembly.

## ROUTINE MAINTENANCE

To obtain best results from this tool, a regular servicing system should be instituted. Where number of these tools are in constant use, we recommend that a servicing department be organized so that routine maintenance can be carried out. The main areas for attention to the tool are likely to be cleaning or changing the Jaws, priming, cleaning air and oil cylinders etc.

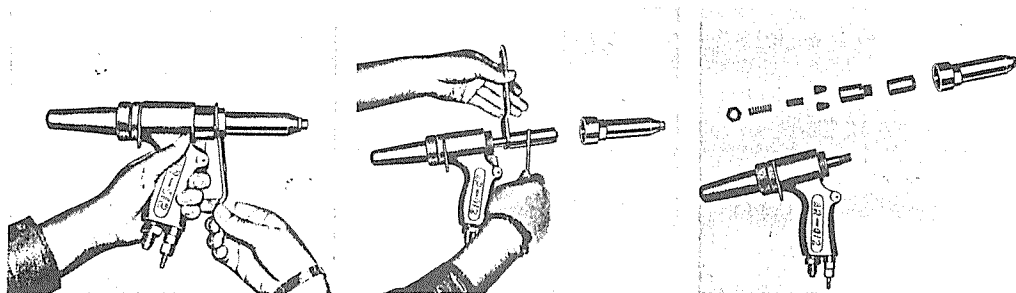
## HOW TO SERVICE JAW



When the tool is in continuous use, it is beneficial to clean the Jaws(006) every two to three days, depending on the number of rivets set, approx. 3,000 rivets. To dismantle Jaws proceed as follows:

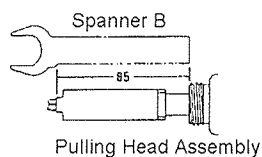
### PROCEDURE:

1. Disconnect air supply.
2. Remove Frame Head (002) using Spanner A (081). Clean the inside of Frame Head.
3. Unscrew the Jaw Case (005) by holding the Jaw Case Lock Nut (010) and remove the Lock Washer (009) from the Oil Piston (016), using Spanner A & B.
4. Unscrew the Jaw Case Head (003) from the Jaw case (005) and take out Jaw Pusher Spring (008), Jaw Pusher (007) and a pair of Jaws (006).
5. Jaws, Jaw Pusher, Jaw Pusher Spring, Jaw Case Head are now accessible for cleaning and all debris should be removed from the Jaws using brush.
6. Replace the Jaws if worn or damaged.
7. Oil the mechanism with a good quality Jaw Lube, paying particular attention to the back faces of the Jaw before assembling.
8. To reassemble, reverse the dismantling process followed by Jaw Case Adjustment.



### JAW CASE ADJUSTMENT:

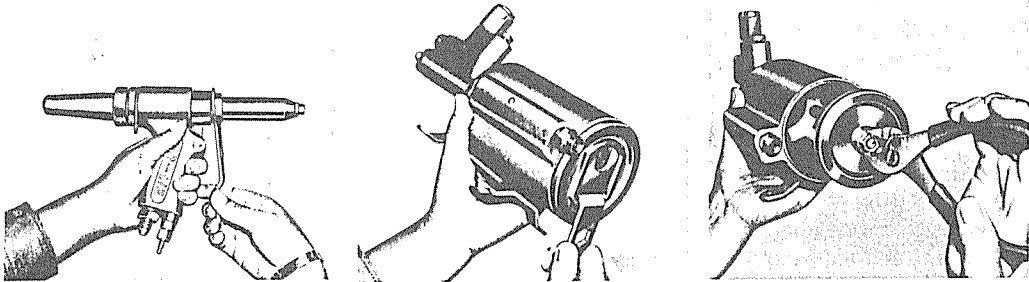
It is very important to adjust the Jaw Case Setting Position whenever the tool is dismantled for cleaning or changing Jaw to obtain the absolute maximum possible stroke of the tool. For this purpose use Spanner 'B' (082), as shown.



Improper setting of Jaw Case position cause faulty defects in the tool i.e., difficulty in the rivet insertion into the Nose Piece due to inadequate Jaw opening and also the spent mandrel will not clear out smoothly, these may jamming in the tool.

## HOW TO SERVICE AIR CYLINDER

1. Disconnect the tool from air supply.
2. Remove Frame Head (002) using Spanner 'A' (081).
3. Firmly hold the Air Cylinder (063) invertedly and remove the Air Cylinder Cap (068) using Spanner A.
4. Draw out Air Piston Unit (066) using suitable pliers.
5. Examine the Air Piston Unit (066) for wear and damage. Also inspect the Rubber Cushion (064) for signs of damage, renew if necessary.
6. Clean and grease the inner walls of Air Cylinder and Piston Rod.
7. Inspect O-Rings (043) and B-Ring (044) for wear and damage and renew as necessary. It is important to replace back the O-Rings and B-Rings in correct relative positions.
8. Also check the O-Rings (065) of the Air Piston and (067) of the Air Cylinder Cap.
9. Lubricate all seals with grease and replenish clean hydraulic oil through the oil inlet of the Air Cylinder.



Every care should be taken to keep the oil free from air bubbles during priming. To re-assemble, reverse the dismantling process.

## HOW TO SERVICE HYDRAULIC CYLINDER

1. Disconnect the tool from air supply.
2. Remove the Frame Head (002) using Spanner 'A' (081) and dismantle the Jaw Case housing from the Oil Piston.
3. Unscrew the Safety Cover Nut (022) and remove the Safety Cover (021).
4. Hold the Air Valve (029) and disconnect the Air Hose from the pistol by unscrewing the Joint Nut (034). Care not to loose the Steel Ball Valve (031) and Valve Spring (032).
5. In a similar way, disconnect the Hydraulic Hose by unscrewing its Joint Nut. Care should be taken to hold the Hydraulic Hose with its opening in the upright so as to stop the loss of hydraulic oil.
6. Unscrew the Frame Cap (020) in the anti-clockwise direction and remove the two Returning Springs (017).
7. With draw Oil Piston (016) by pushing it through the Jaw Case side.
8. Clean and inspect O-Rings (011) and B-Ring (012) for wear and damage, renew if necessary and replace in its correct relative positions.
9. Also check the Oil Piston O-Ring (014) and B-Ring (015).
- 10 Lubricate all the seals and cylinder walls with grease.

To re-assemble, reverse the dismantling process followed by priming hydraulic oil.

## ASSEMBLY

Before assembling, inspect all parts and replace if necessary. Clean all parts thoroughly with mineral spirit and lubricate with grease. Must not forget to grease the inner walls of the air cylinder and oil cylinder. A good practice to follow is to replace all O-Rings and B-Rings, light springs and valves, whenever the tool is disassembled for any reason.

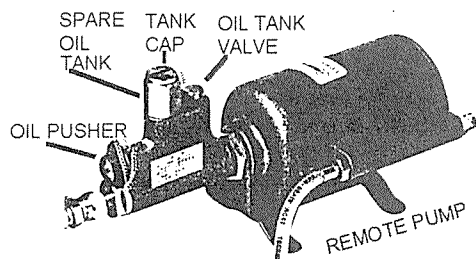
**CAUTION:** THE TOOL SHOULD NOT BE GRIPPED IN A VICE BY THE HEAD OR BODY CASING, AS THE INTERNAL BORES MAY BECOME DISTORTED, INTERFERING WITH THE OPERATION OF THE TOOL.

## PRIMING HYDRAULIC OIL

After considerable use, the tool stroke may be reduced and the fastener not fully placed by one operation of the trigger. This may only occur after many thousands of setting operations have been completed. To restore the full stroke of this tool, the following procedure should be carried out. However, this procedure does not require any dismantling of the tool.

### PRECAUTIONS:

1. Disconnect tool from the air supply.
2. All operations to be carried out on a clean bench, with clean hands, in a clean area.
3. When priming the AR-012 tool, hydraulic oil supplied by Lobster should be used.
4. Ensure that the Spare Oil Tank (051) is free from foreign matter and that the oil contained in it is perfectly clean.
5. Care should be taken at all times that foreign matter does not enter the power tool or serious damage may result.
6. Every care should be taken to keep the oil free from air bubbles when priming.



### PROCEDURE:

1. Disconnect tool from air supply.
2. Remove the Frame Head (002) using Spanner A.
3. Unscrew to remove the Spare Tank Cap (049) and fill the Spare Oil Tank (051) with clean hydraulic Oil to the top.
4. Loosen the Oil Tank Valve (056) to one complete rotation.
5. Depress slowly the Oil Pusher (045) two to three times, until oil issues freely from the Spare Oil Tank without air bubbles.
6. Depress the Oil Pusher (045) until Oil Piston Rod (pulling head assembly) starts to move backward.
7. Stop and tighten back the Oil Tank Valve (056).
8. Top-up the Spare Oil Tank (051) with hydraulic oil and tighten its Cap (049).
9. Adjust the Jaw Case setting position, refer to 'Jaw Case Adjustment' and assemble.

**CAUTION:** IF DURING PRIMING PROCESS TOO MUCH OF THE HYDRAULIC OIL IS REPLENISHED, THEN IT WILL BE NECESSARY TO DISMANTLE THE AIR CYLINDER, WITHDRAW THE AIR PISTON AND BLEED OFF EXCESS OIL AND RE-ASSEMBLE.

## HYDRAULIC OIL REQUIREMENTS

"Lobster" brand Hydraulic Oil (Part 086) is supplied with the tool, in a filler bottle and can also be obtained from your dealer or agent in your town. If this is not possible, a good quality mineral oil with the following properties should also be used:

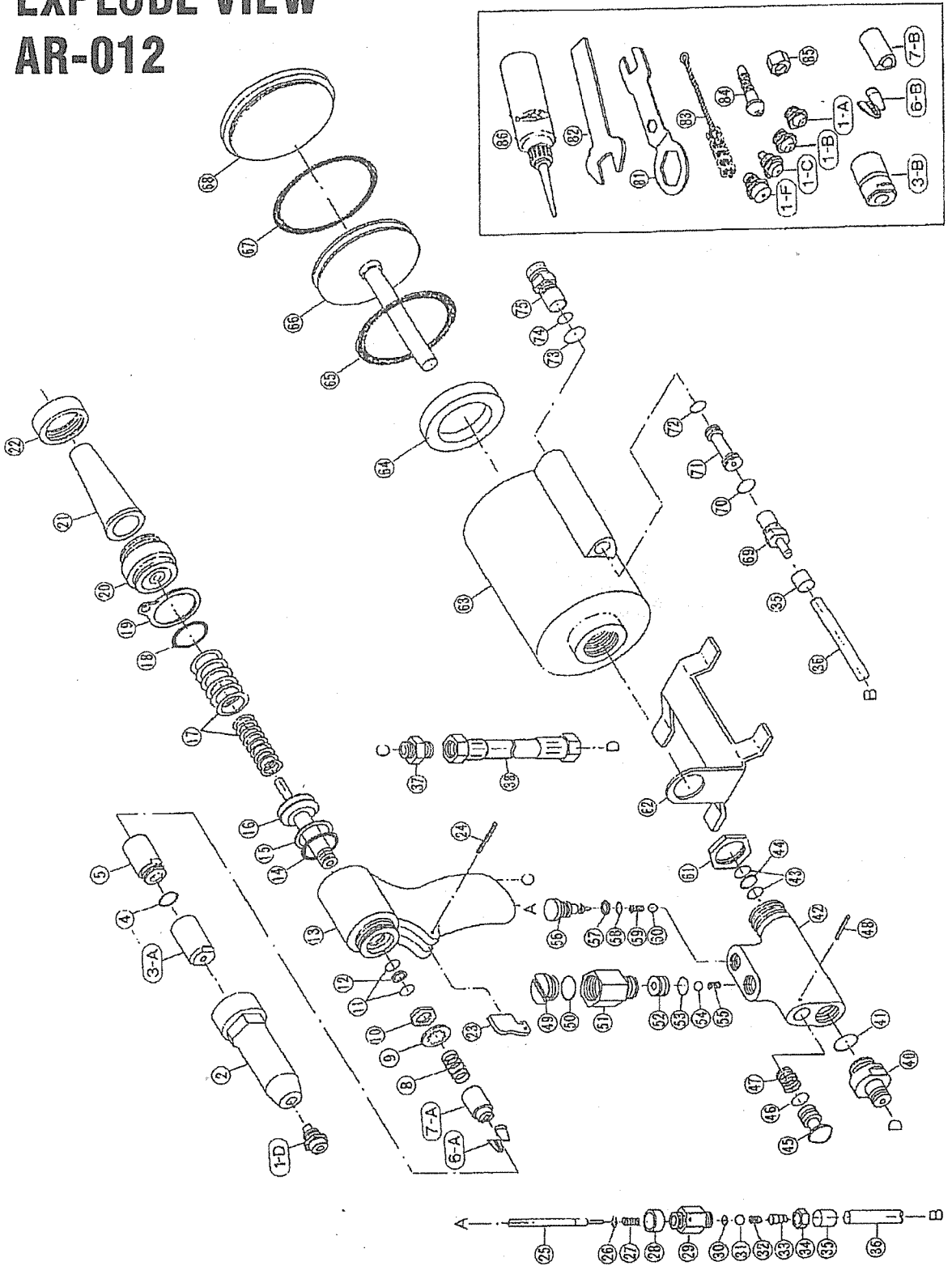
Viscosity ISO:	VG46
Viscosity Index:	113
Viscosity at 40°C:	46 c.s.t.
Viscosity at 100°C:	7.06 c.s.t.
Flash Point:	228

### RECOMMENDED OILS:

- Shell Tellus No. 46
- Esso Teresso No. 46
- Mobil D.T.E. 25 Oil (Medium)



# EXPLODE VIEW AR-012



# PARTS LIST

# AR-012

INDEX	CODE	DESCRIPTION
001-A	10213	Nose Piece (M) 2.4(3/32")
001-B	10214	Nose Piece (M) 3.2(1/8")
001-C	10215	Nose Piece (M) 4.0(5/32")
001-D	14350	Nose Piece (M) 4.8(3/16")
001-F	10226	Nose Piece (H) 6.4(1/4")
002	10191	Frame Head
003-A	20528	Jaw Case Head (M)
003-B	10223	Jaw Case Head (H)
004	10152	O-Ring (S-14)
005	10198	Jaw Case
006-A	10117	Jaws Set 'M'
006-B	10201	Jaws Set 'H'
007-A	10209	Jaw Pusher (M)
007-B	10224	Jaw Pusher (H)
008	10210	Jaw Pusher Spring
009	10148	Lock Washer A (7/16")
010	10113	Jaw Case Lock Nut
011	10128	O-Ring (P-12)
012	10129	B-Ring (P-12)
013U	10298	Frame Unit (Includes 011 & 012)
014	10207	O-Ring (P-24)
015	10208	B-Ring (P-24)
016	10195	Oil Piston
017	14139	Return Spring A+B (Set)
017A	10196	Return Spring A (Inner)
017B	10197	Return Spring B (Outer)
018	10221	O-Ring (S-28)
019	10192	Hanger Clip
020	10190	Frame Cap

INDEX	CODE	DESCRIPTION
021	10072	Safety Cap (Standard)
022	10194	Safety Cap Nut
023	10335	Trigger (Short)
024	10144	Spring Pin (3X22)
025	10302	Connector Rod
026	10332	E-type Retaining Ring
027	10303	Connector Spring
028	10304	Joint Washer
029	10305	Air Valve
030	10333	O-Ring (P-3)
031	10306	Steel Ball 4.5
032	10307	Valve Spring (Bottom)
033	10308	Air Hose Joint 1/8
034	10309	Joint Nut 1/8
035	10331	Ring for Air Hose
036	10326	Air Hose
037	10301	Frame Nipple
038	10325	Hydraulic Hose (1.5meter)
039	14833	Cable Tie
040	10310	Oil Tank Head
041	10338	O-Ring (P-20)
042	14225	Oil Tank Only
043	10128	O-Ring (P-12)
044	10129	B-Ring (P-12)
045	10311	Oil Pusher
046	10336	O-Ring (P-8)
047	10313	Oil Pusher Spring
048	10144	Spring Pin (3X22)
049	10316	Spare Tank Cap

# PARTS LIST

# AR-012

INDEX	CODE	DESCRIPTION
050	10152	O-Ring (S-14)
051	10315	Spare Oil Tank
052	10317	Oil Valve
053	10337	O-Ring (P-10A)
054	10306	Steel Ball 4.5
055	10318	Ball Spring A
056	10320	Oil Tank Valve
057	10339	B-Ring (P-6)
058	10150	O-Ring (P-6)
059	10319	Ball Spring B
060	10306	Steel Ball 4.5
061	10112	Frame Lock Nut
062	10324	Air Cylinder Stand
063	10299	Air Cylinder w/Bumper
064	10114	Rubber Cushion
065	10212	O-Ring (P-70)

INDEX	CODE	DESCRIPTION
066	14164	Air Piston Unit
067	10211	O-Ring (G-80)
068	10059	Air Cylinder Cap
069	10321	Nipple A
070	10219	O-Ring (P-9)
071	10323	Air Spool
072	12120	O-Ring (P-5)
073	10219	O-Ring (P-9)
074	10150	O-Ring (P-6)
075	14186	Nipple B with O-Ring
081	10217	Spanner A
082	10218	Spanner B
083	10143	Cleaning Brush
084	10140	Air Hose Joint 1/4
085	10139	Air Hose Joint Nut 1/4"
086	10012	Hydraulic Oil (150cc Bottle)

## WARRANTY & SERVICE

LOBSTER WARRANTS THAT GOODS COVERED BY THIS MANUAL WILL CONFORM TO APPLICABLE SPECIFICATIONS AND DRAWINGS AND THAT SUCH GOODS WILL BE MANUFACTURED AND INSPECTED ACCORDING TO GENERALLY ACCEPTED PRACTICES OF COMPANIES MANUFACTURING INDUSTRIAL TOOLS. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE FOREGOING. THE LIABILITY OF LOBSTER ON PARTS FOUND TO BE DEFECTIVE IS LIMITED TO RE-WORK OR THE REPLACEMENT OF SUCH GOODS AND IN NO CASE TO EXCEED THE INVOICE VALUE OF THE SAID GOODS. UNDER NO CIRCUMSTANCES WILL LOBSTER BE LIABLE FOR DAMAGES OR COSTS INCURRED BY THE BUYER OR SUBSEQUENT USER IN REPAIRING OR REPLACING DEFECTIVE GOODS. ROUTINE MAINTENANCE AND REPAIR OF LOBSTER RIVET TOOLS CAN BE PERFORMED BY AN AVERAGE MECHANIC. HOWEVER, IF YOU HAVE A LOBSTER RIVET TOOL THAT IS IN NEED OF MAJOR REPAIR, WE RECOMMEND THAT IT BE SENT DIRECTLY TO US POSTAGE PAID FOR SERVICE AT A REASONABLE CHARGES.

MANUFACTURER  
 **LOBTEX CO., LTD.**  
(Formerly 'LOBSTER' TOOL CO. LTD.)  
OSAKA, JAPAN