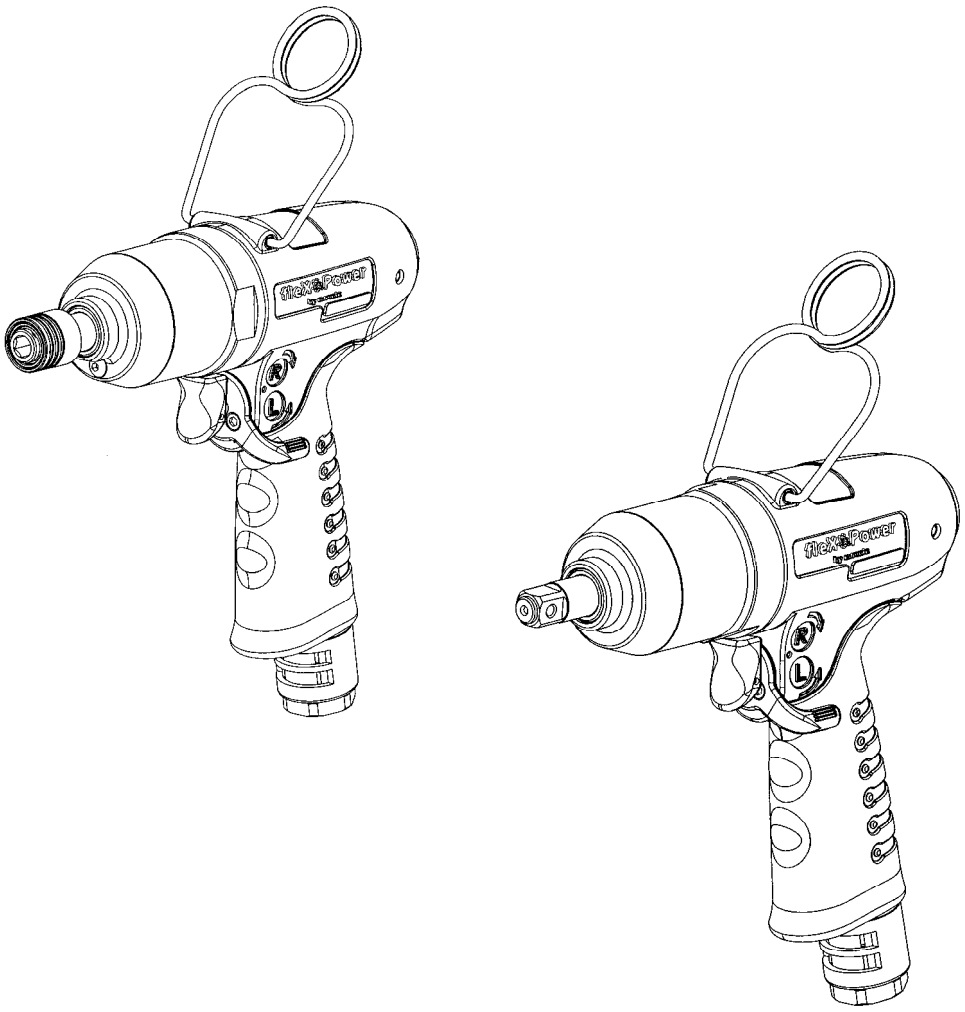
fleX Power
by mountz

PULSE TOOLS
INSTRUCTION MANUAL & MAINTENANCE

PISTOL TYPE



Rev 3.0 (7/12/2011)

- **READ ALL THE INSTRUCTIONS COMPLETELY BEFORE OPERATION.**
- **COMPLY WITH ALL THE INSTRUCTIONS AND RULES IN THIS MANUAL AND SAVE THIS MANUAL FOR FUTURE REFERENCE.**

CHART OF CONTENTS

General Safety Rules

ALWAYS OBSERVE THE FOLLOWING RULES TO ASSURE SAFE USE OF THE TOOLS!!

- **Do not operate the pulse tools unless you fully understand the instructions contained in this manual. If any unclear, please contact the agents.**
- **Never expose to rain or use in damp locations.**
- **Always use the proper pressure at air inlet. Apply either less or exceed air inlet pressure will affect the performance of the tools, including quality, torque, function, and life, then lead to damage.**

Air inlet pressure standard

70PSI – 85PSI (5.2kg/cm^2 ~6.2kg/cm^2)

- **Always add oil about 0.5~1cc at air inlets at least every week to maintain the performance and the life of the pulse tools.**
- **Keep children away. Tools must need to be kept in a safe and clean position where children cannot reach.**
- **DO NOT force tools. The tool will be damaged easily and quickly if over-load over 15 seconds.**
- **Always use the proper length of air hose. The length of air hose shall not exceed 5 meters, or the pressure reduces. Do be sure the air inlet pressure is in between the standard number(70PSI – 85PSI) before operating tools.**
- **Always use safety glasses and earphone.**
- **Always operate the tools by two hands. One hand operation may cause risk of injury to persons.**
- **Disconnect the air hose and the quick nipple after operating tools. Be sure to return tools to safety position. Tools drop or unintentionally contact can cause risk of injury.**
- **Install the safety buckle to avoid tools drop while operating in high position.**
- **Never contact with any electricity conducted objects to avoid electricity shock hazard.**

Replacement and Maintenance

(1) Never try to repair or replace the defective tools by others under the warranty period. The authorized service centers have the right to refuse or certain fee may incur for extra repair work.
(2) Keep all related servicing records for future repairs, maintenance, and adjustment.
(3) The warranty does not apply to accessories or damage caused where repairs have been made or attempted by others
(4) Mountz will repair, without charge, any defects due to faulty material under the warranty period
(5) The warranty does not cover part failures due to normal wear and tool abuse, and damage caused due to any appropriate appliances, i.e. tool over loaded, improper air inlet pressure and air hose size, unauthorized replacement parts.

Steps for Torque Adjustment – Pistol Type

1. **Loosen the screw on the pulse unit housing.**

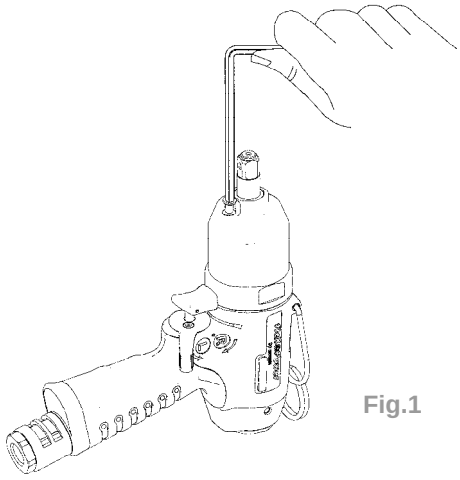


Fig.1

2. **Rotate the anvil manually; make the valve screw inside the pulse unit aim at the hole (where the screw taken off). Then, use the attached tool to adjust the torque. Torque increased by turning clockwise and vise versa。**

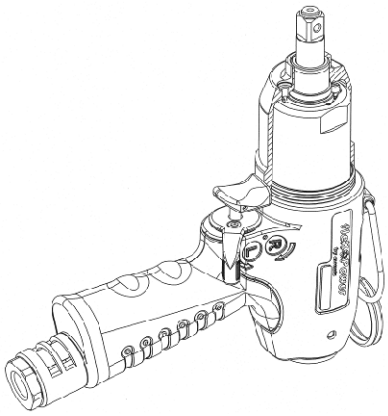


Fig.2

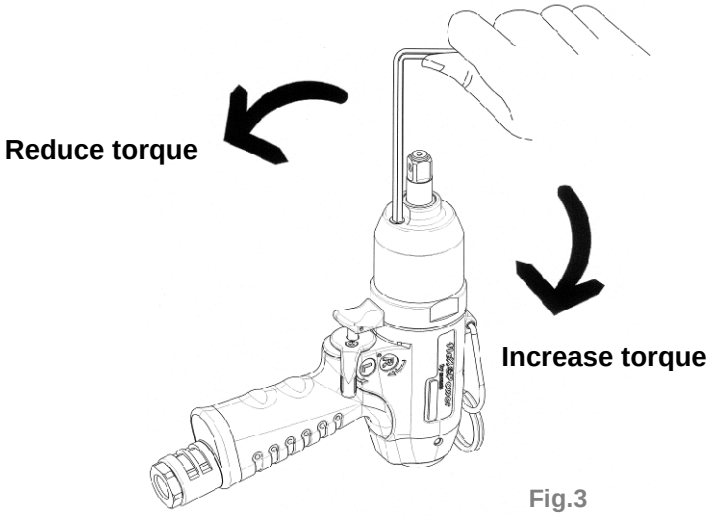


Fig.3

3. **Tighten the screw back to the pulse unit housing.**

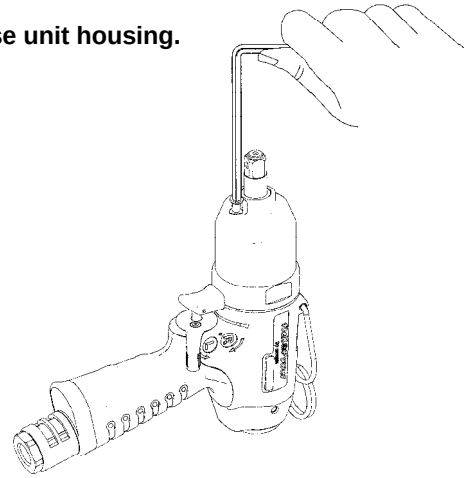


Fig.4

- **RECOMMENDATIONS FOR SERVICE**

The pulse tool requires regular maintenance to ensure the tool operates at optimal performance. The type of routine maintenance and the frequency is dependent on the application and how the tool is used. The pulse tool requires preventive maintenance like oil changes and have the parts inspected periodically. Regular oil changes will increase the life cycle of the tool, reduce maintenance costs and allow the tool operate properly.

When is first service required? There are several factors that influence the maintenance schedule: 1: Type of application, 2) The torque setting within the torque range of the pulse tool, and 3) The number of cycles the tool is used daily, weekly and monthly.

1) The first service is recommended at 250,000 pulse-seconds. The oil needs to be changed. Inspect all the soft parts of the pulse unit (the soft parts are referenced as the "Repair Kit" - see parts list document for that model). The Repair Kit includes all the necessary parts and it is recommend to be performed every six months at minimum, based upon use of the tool.

2) The second service is recommended at 500,000 pulse-seconds. The oil needs to be changed. All soft parts of the pulse unit need to be replaced (the soft parts are referenced as the "Repair Kit" - see parts list document for that model). Inspect the hard parts of the pulse tool (the hard parts are referenced as the "Service Kit" - see parts list document for that model). This maintenance service may occur once or twice a year at minimum, based upon use of the tool.

It is recommended that after 250,000 pulse-seconds the pulse tool should be evaluated for general performance and oil condition as part of its standard preventive maintenance. If the tool fails before the 250,000 pulses-seconds then the pulse unit needs to be rebuilt, with the "Repair Kit" and "Service Kit" (see parts list document for that model). **Note!** Always it is important to make sure the tool has clean, dry and lubricated air at the recommended pressure supplied to it.

A pulse-second is not every second the tool is running, only when it's "pulsing" and applying torque. Typically, the tool does not start pulsing until after the fastener is snug, unless there's considerable prevailing torque. When operating the tool on the fastener, start counting once the tool begins pulsing. You can use a watch with a second hand and time it until the tool automatically shuts-off. Use the information to calculate how many pulse-seconds the tool performs per application each day. Then perform some basic math to calculate the tool's maintenance schedule. Use this formula.

Pulsing Seconds ÷ Total of Pulsing Time = No Cycles

Note! Please include the rework, reverse, or retightening time involved on the operation to calculate the accurate pulsing time. Here is an example:

Pulsing Time = 2 seconds

Pulses- seconds recommended = 250,000

250,000 pulses-sec ÷ 2 sec = 125,000 cycles

Taking the example above, to estimate the maintenance period can be follow by the following

No of Fasteners	Pulsing Time per Fastener	No of parts assembled per day	Calculation	No of days to inspect the tool
7	**2 seconds**	**300**	**125,000 /(300*7) = 59**	**59 days**

Regularly the hard joint pulse in average 0.5 sec, and the soft joint is average is 2 seconds, based on the above example, if the tool has not drop-off the performance, the service to change the oil fluid is after approximately 59 work days. However the application can be expose of extreme conditions (poor air supply, extended pulsing times, torque setting at the high end of tool range, high number of cycles), the maintenances intervals may need to be reduced.

TOOL MODEL	Repair Kit Item No	Service Kit Item No
AUTO SHUT-OFF MODELS		
FLEXS-40P	63- IS40RK -E05A	63- IS40SK -E05A
FLEXS-50P	63- IS50RK -E05A	63- IS50SK -E05A
FLEXS-60P	63- IS60RK -E05A	63- IS60SK -E05A
FLEXS-70P	63- IS70RK -E05A	63- IS70SK -E05A
FLEXS-90P	63- IS90RK -E05A	63- IS90SK -E05A
FLEXS-100P	63- IS100RK -E05A	63- IS100SK -E05A
FLEXS-130P	63- IS130RK -E05A	63- IS130SK -E05A
FLEXS-150P	63- IS150RK -E05A	63- IS150SK -E05A
FLEXS-30PX	63- IS30DRK -E05A	63- IS30DSK -E05A
FLEXS-40PX	63- IS40DRK -E05A	63- IS40DSK -E05A
FLEXS-50PX	63- IS50DRK -E05A	63- IS50DSK -E05A
FLEXS-60PX	63- IS60DRK -E05A	63- IS60DSK -E05A
NON SHUT-OFF MODELS		
FLEX-40P	63- I40RK -E05A	63- I40SK -E05A
FLEX-50P	63-I50RK -E05A	63-I50SK -E05A
FLEX-60P	63-I60RK -E05A	63-I60SK -E05A
FLEX-70P	63-I70RK -E05A	63-I70SK -E05A
FLEX-90P	63-I90RK -E05A	63-I90SK -E05A
FLEX-100P	63-I100RK -E05A	63-I100SK -E05A
FLEX-130P	63-I130RK -E05A	63-I130SK -E05A
FLEX-150P	63-I150RK -E05A	63-I150SK -E05A
FLEX-30PX	63- I30DRK -E05A	63- I30DSK -E05A
FLEX-40PX	63- I40DRK -E05A	63- I40DSK -E05A
FLEX-50PX	63-I50DRK -E05A	63-I50DSK -E05A
FLEX-60PX	63-I60DRK -E05A	63-I60DSK -E05A

DISASSEMBLY / ASSEMBLY FOR PULSE WRENCHES

FLEX-40P, FLEX-50P, FLEX-60P, FLEX-70P, FLEX-90P, FLEX-100P, FLEX-130P, FLEX-150P FLEX-30PX, FLEX-40PX, FLEX-50PX, FLEX-60PX

- **PULSE MECHANISM DISASSEMBLY**

1.0 Quick Change Holder Assembly: (for Model No. FLEX-30PX, FLEX-40PX, FLEX-50PX, FLEX-60PX)

Press down the hold spacer, and find the anvil collar. Use the a needle like stuff to get the anvil collar out, then take the quick change holder, the hold spacer, the spring, and the steel ball apart.

⚠ **The steel ball may drop off when taking out the Quick Change Holder**

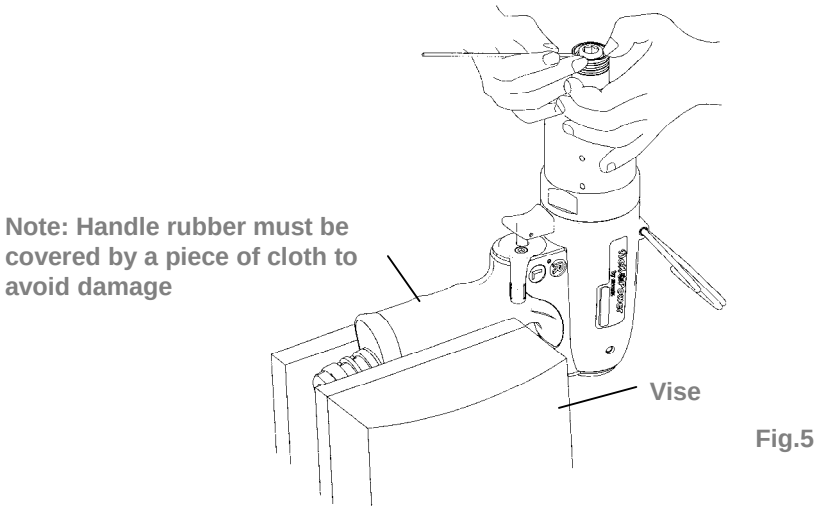


Fig.5

2.0 Pulse Unit Housing Disassembly:

Fix the tool by a vise, use an adjustable Chart wrench clockwise to loosen the pulse unit housing until the pulse unit housing detach from the motor housing. Then, take the pulse unit out (Fig 6).

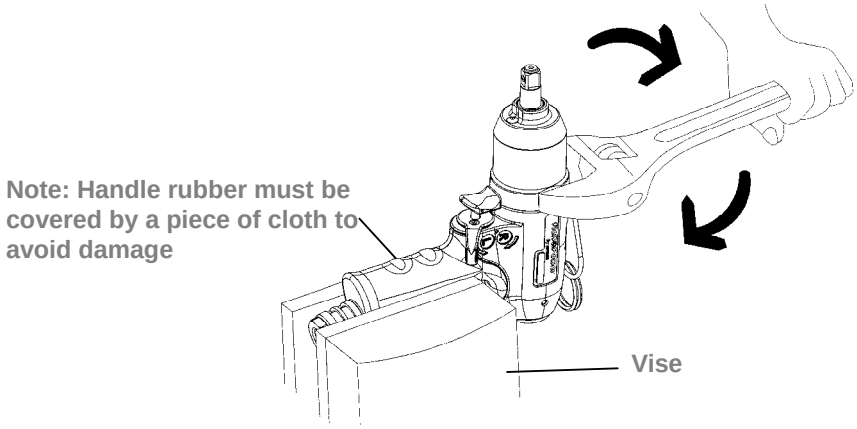


Fig.6

3.0 Pulse Unit Disassembly:

3.1 Fix the pulse unit by a vise. Use the appliance (see Chart 1) to loosen the lock nut on the pulse unit, Fig. 7.

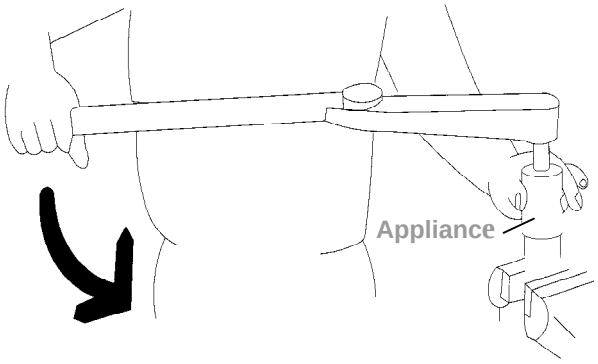


Fig.7

Note: Loctite® was applied on the lock nut when tools assembled.

Appliance No.	Apply to
63-TDI-40RT001	FLEX-40P, FLEX-50P, FLEX-60P, FLEX-30PX , FLEX-40PX , FLEX-50PX , FLEX-60PX
63-TDI-70RT001	FLEX-70P
63-TDI-90RT001	FLEX-90P
63-TDI-100RT001	FLEX-100P
63-TDI-130RT001	FLEX-130P
63-TDI-150RT001	FLEX-150P

Chart 1

3.2 Put the Appliance, see Chart 2, on the anvil and tap on it slightly to detach the interior parts from the pulse unit, Fig. 8.

Chart 2

Appliance No.	Apply to
63-TDI-40RT002	FLEX-40P, FLEX-50P, FLEX-60P, FLEX-70P,FLEX-30PX ,FLEX-40PX , FLEX-50PX , FLEX-60PX
63-TDI-90RT002	FLEX-90P, FLEX-100P, FLEX-130P, FLEX-150P

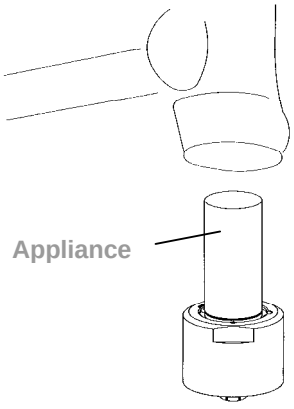
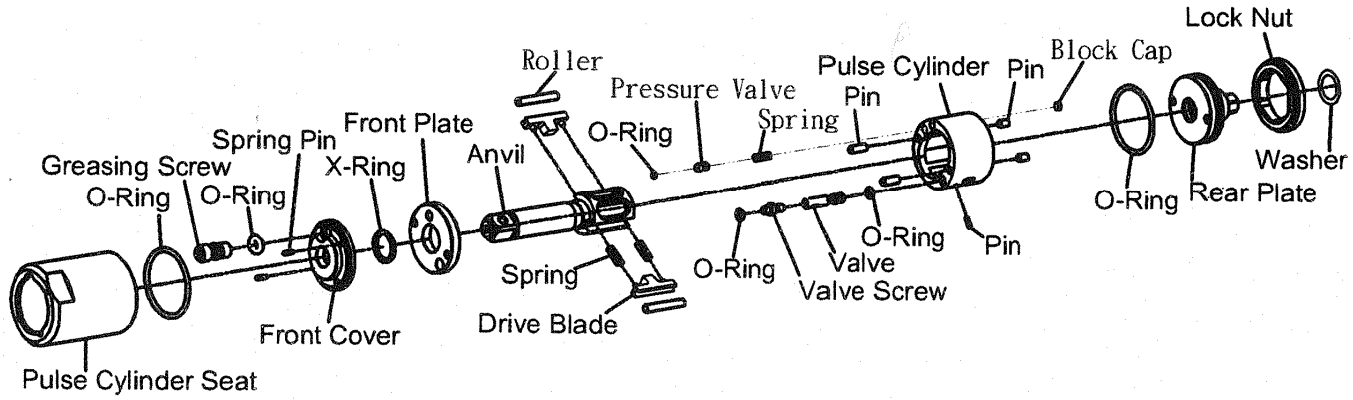


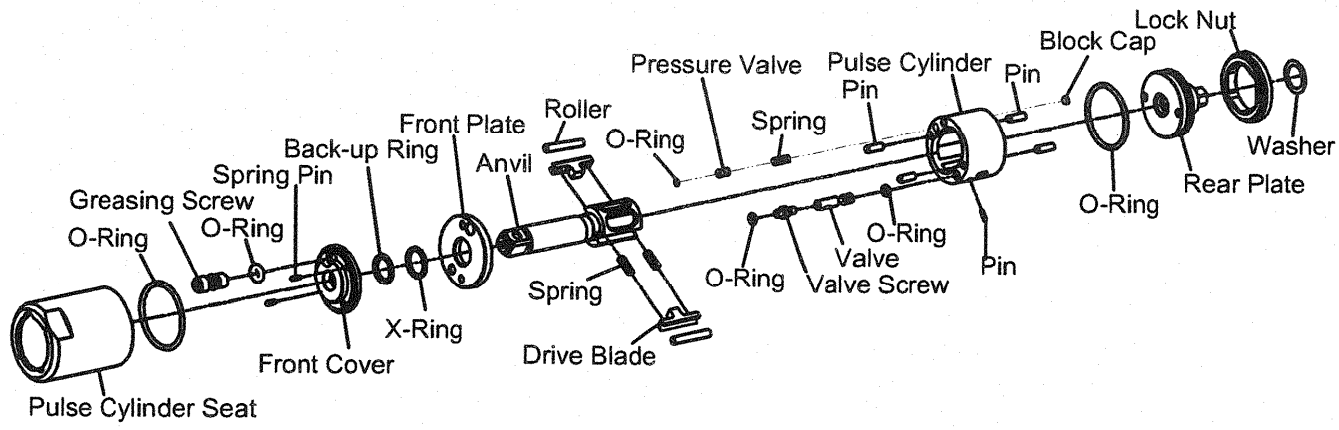
Fig. 8

4.0 Parts of Pulse Cylinder Unit:

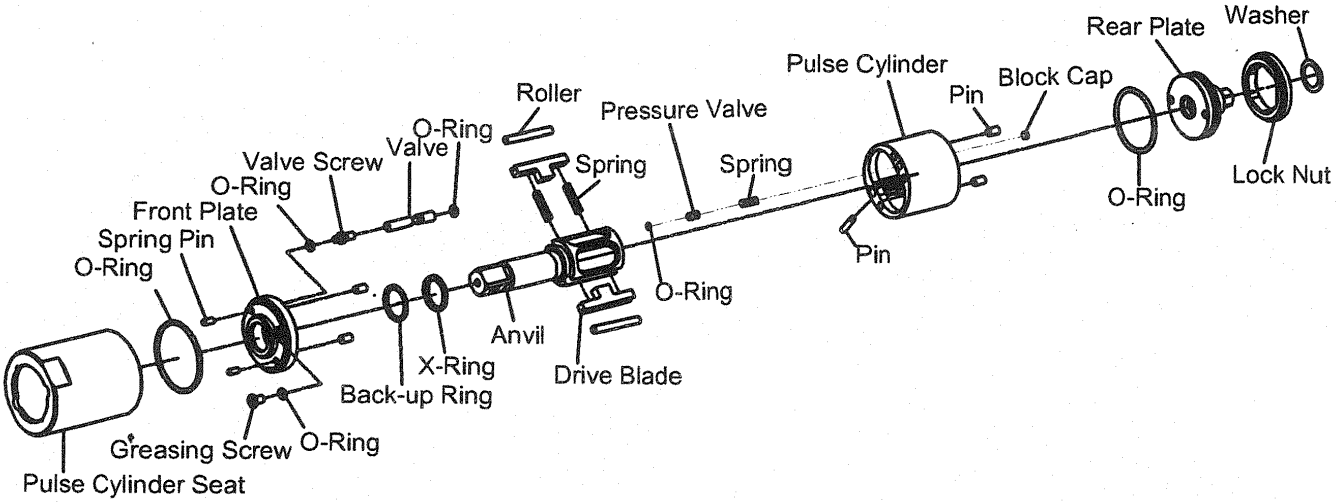
a) FLEX-40P, FLEX-50P, FLEX-60P



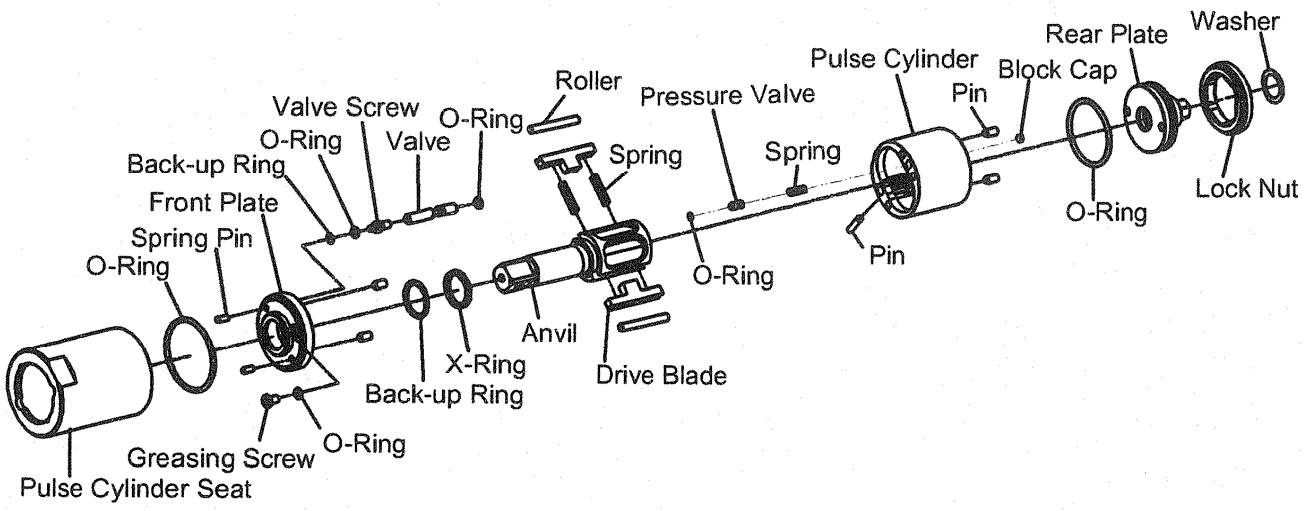
b) FLEX-70P, FLEX-90P



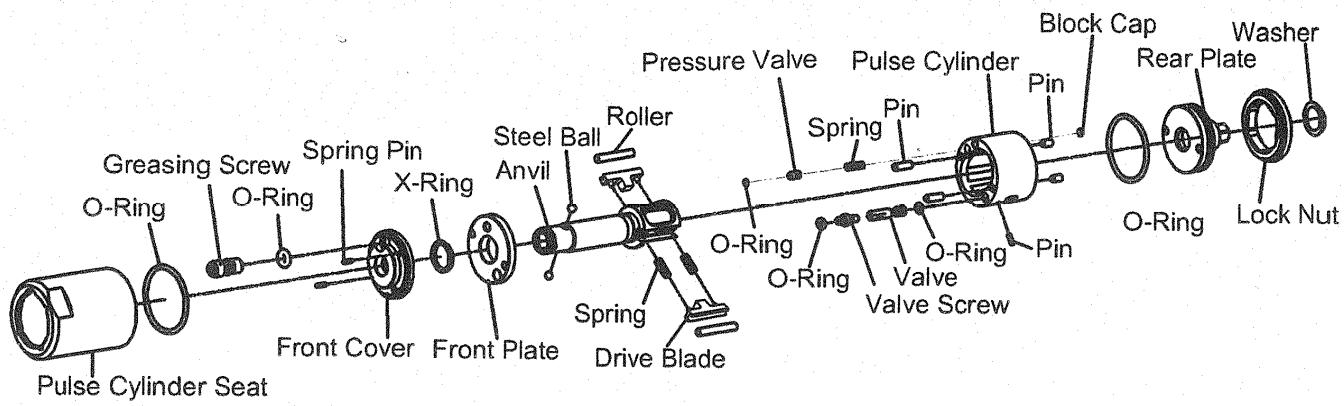
c) FLEX-100P



d) FLEX-130P



e) FLEX-30PX ,FLEX-40PX , FLEX-50PX , FLEX-60PX



- **PULSE UNIT ASSEMBLY:**

1.0 Pulse Cylinder Unit Assembly:

1.1 Install the pins on both sides of the pulse cylinder. (Fig. 9)

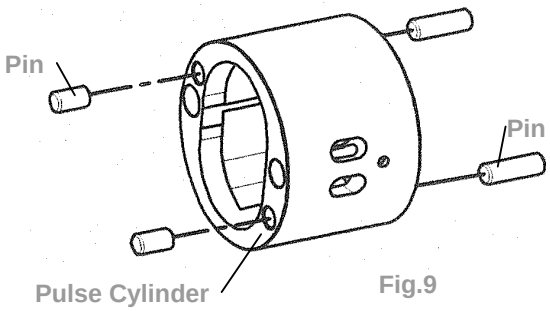


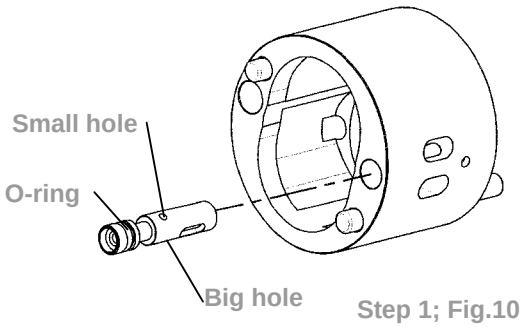
Fig.9

1.2 Sleeve the O-ring to the valve and install the valve into the big hole on the pulse cylinder. (Step 1; Fig.10)

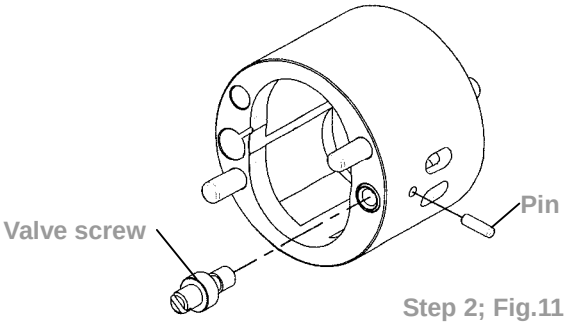
1.3 Insert the pin into the hole on the side of the pulse cylinder. (Step 2; Fig.11)

1.4 Screw the valve screw to the pressure valve. (Step 3; Fig.11)

NOTE: the valve screw MUST screw to the most bottom position certainly.



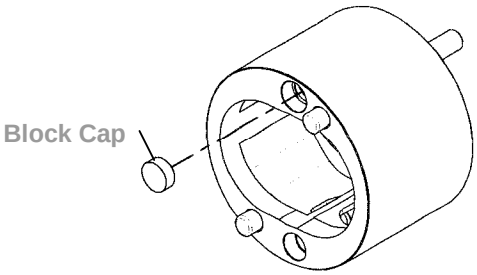
Step 1; Fig.10



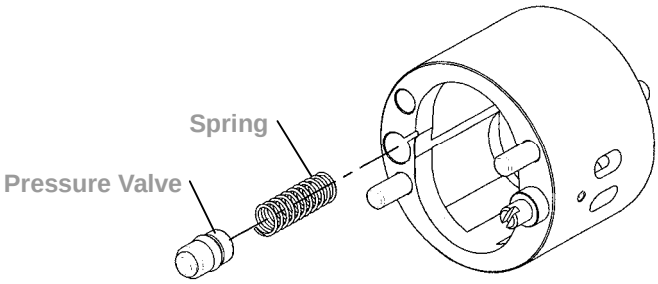
Step 2; Fig.11

1.5 Plug the block cap into the hole and make sure it is parallel to the surface of the pulse cylinder. (Step 4; Fig. 12)

1.6 Put the spring into the hole then install the pressure valve that with the O-ring sleeved. (Step 5; Fig. 13)



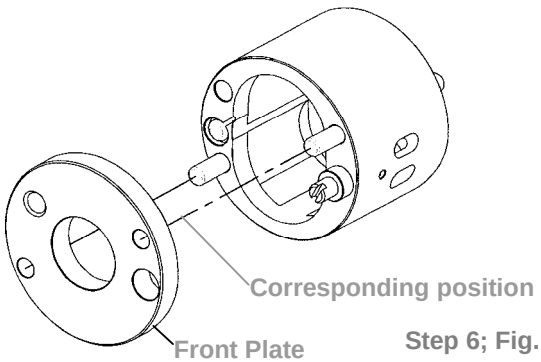
Step 4; Fig.12



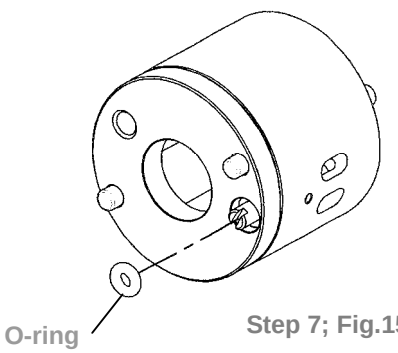
Step 5; Fig.13

1.7 Install the front plate and make sure the corresponding position with the pins. (Step 6; Fig. 14)

1.8 Sleeve the O-ring on the valve screw and press into the hole. Make sure it is parallel to the surface of the front plate. (Step 7; Fig. 15)



Step 6; Fig.14



Step 7; Fig.15

2.0 Anvil Unit Assembly

Install the roller to the drive blade, then insert the springs into the anvil and press the blades from both sides. Finally put the anvil to the pulse cylinder to complete the anvil unit assembly.

NOTE: RECOMMENDED UTILIZE THE SPECIAL FIXTURE FOR EASIER INSTALLATION FOR THE ANVIL WITH THE ROLLER AND THE BLADE INTO THE CYLINDER

FIXTURE PART No	TOOL MODEL
63-I40AST-001K	FLEX-40P, FLEX-50P, FLEX-60P, FLEX-40PX, FLEX-50PX, FLEX-60PX,
63-I70AST-001K	FLEX-70P
63-I90AST-001K	FLEX-90P
63-I100AST-001K	FLEX-100P
63-I130AST-001K	FLEX-130P
63-I150AST-001K	FLEX-150P

MUST follow the direction as Fig.18 showed while installing the anvil unit into the pulse cylinder; be sure to aim at the highest points by two sides of the interior pulse unit and press the two drive blades in slowly.

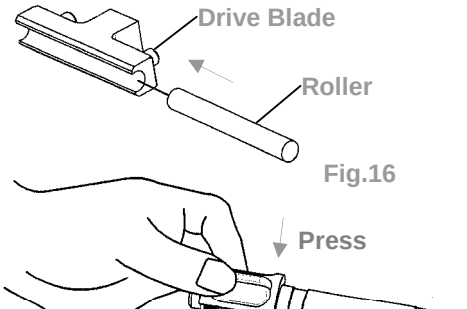


Fig.16

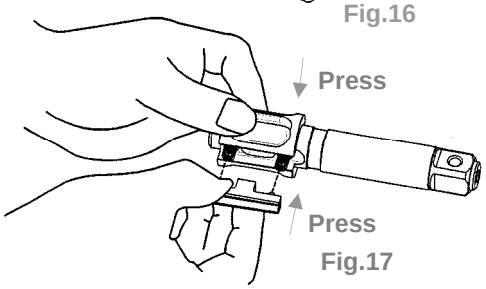


Fig.17

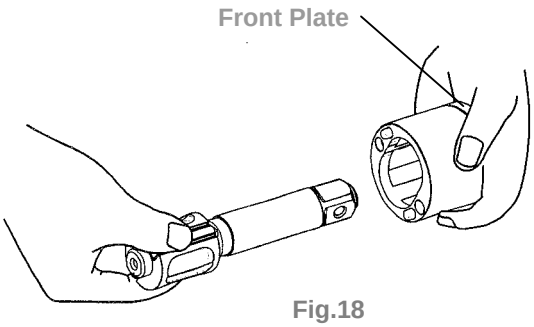


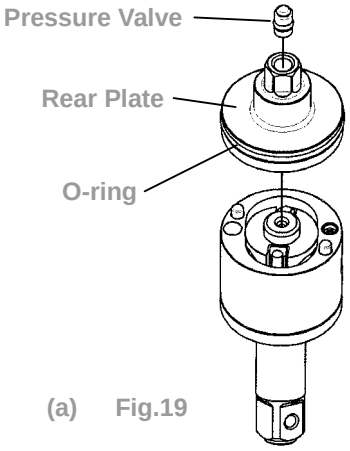
Fig.18

3.0 Front Cover and Rear Plate of Pulse Cylinder Assembly (For the models FLEX-40P, FLEX-50P, FLEX-60P, FLEX-30PX ,FLEX-40PX , FLEX-50PX , FLEX-60PX)

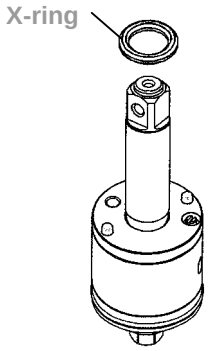
3.1 (a) Install the rear plate to the pulse cylinder and be sure the positions of the pin and the hole are corresponded. (Fig. 19) Then, plug the pressure valve with the convex facing outside in the hole on the rear plate.

(b) Put the X-ring on the anvil with the oil applied. (Fig. 20)

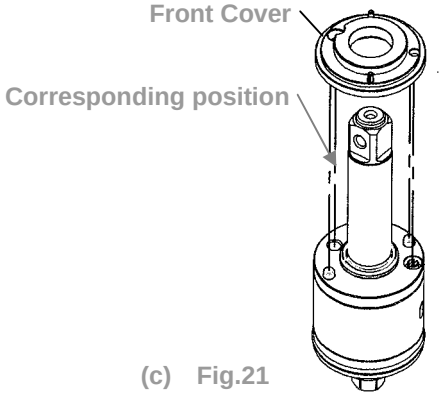
(c) Install the front cover to the pulse cylinder by the corresponding positions. (Fig. 21)



(a) Fig.19



(b) Fig.20



(c) Fig.21

3.2 After installing the front cover, put the O-ring on the greasing screw, then tighten the greasing screw but not tighten it completely.

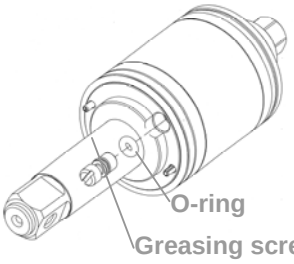


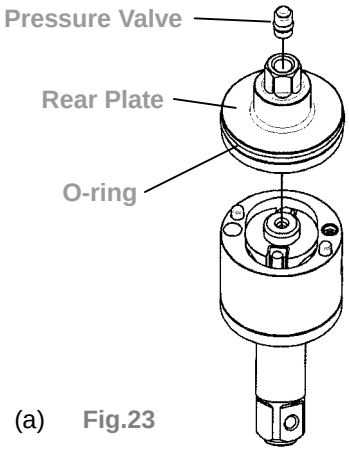
Fig.22

➔ FLEX-70P, FLEX-90P

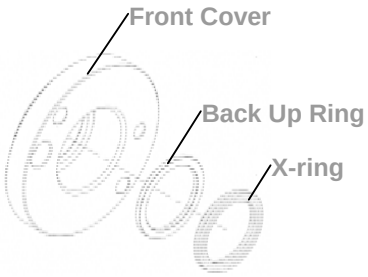
3.1 (a) Install the rear plate that with the O-ring sleeved (Fig. 23). Make sure the positions of the pin and hole are exactly matched. Then, plug the pressure valve with the convex facing outside in the hole on the rear plate.

(b) Put the back up ring and the X-ring into the front cover. (Fig. 24)

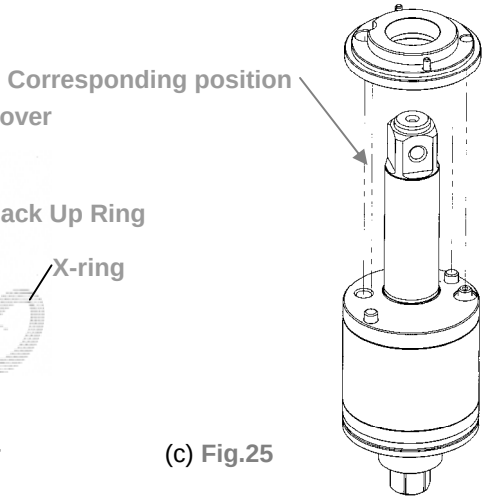
(c) Install the front cover to the pulse cylinder by the corresponding positions. (Fig. 25)



(a) Fig.23



(b) Fig.24



(c) Fig.25

3.2 After installing the front cover, put the O-ring on the greasing screw, then tighten the greasing screw but not tighten it completely.

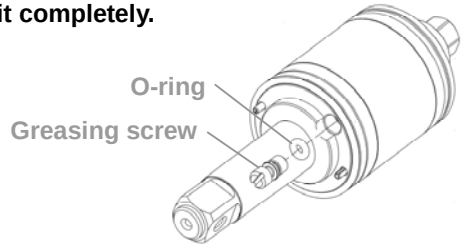


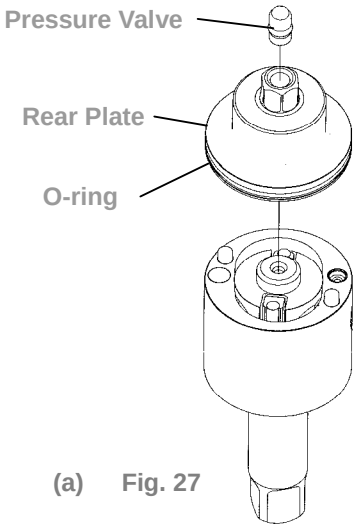
Fig.26

➔ **FLEX-100P**

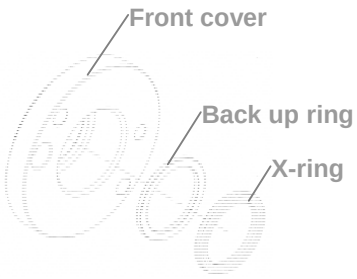
3.1 (a) Install the rear plate that with the O-ring sleeved (Fig. 27). Make sure the positions of the pin and hole are exactly matched. Then, plug the pressure valve with the convex facing outside in the hole on the rear plate.

(b) Put the back up ring and the X-ring into the front plate.(Fig. 28)

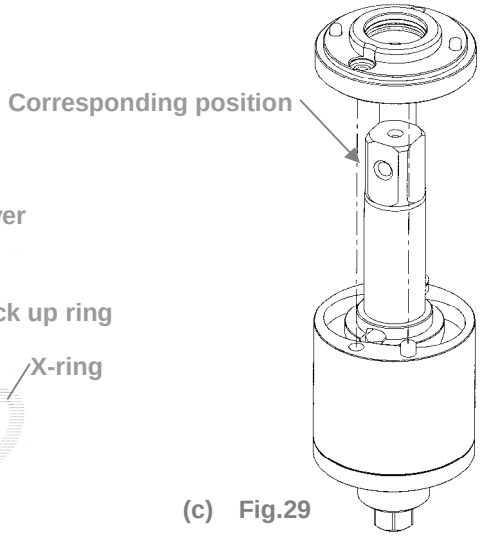
(c) Install the front cover to the pulse cylinder by the corresponding positions. (Fig. 29)



(a) Fig. 27



(b) Fig.28



(c) Fig.29

3.2 After installing the front cover, put the O-ring on the greasing screw, then tighten the greasing screw but not tighten it completely.

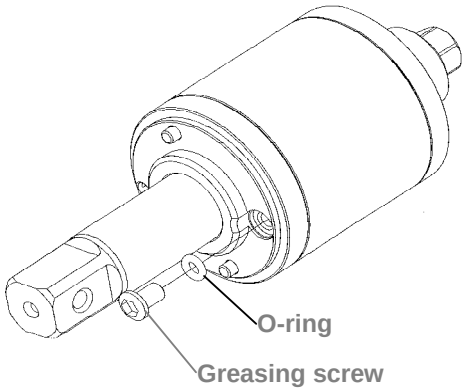


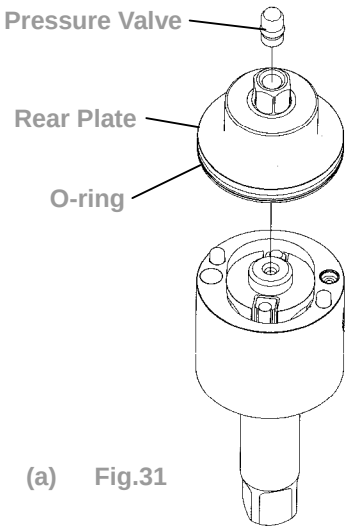
Fig.30

➔ **FLEX-130P, FLEX-150P**

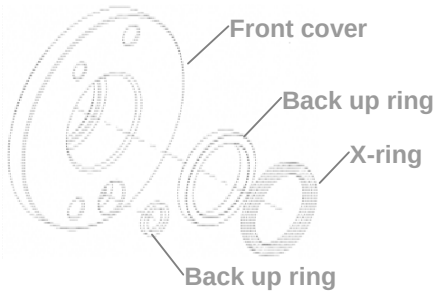
3.1 (a) Install the rear plate that with the O-ring sleeved (Fig. 31). Make sure the positions of the pin and hole are exactly matched. Then, plug the pressure valve with the convex facing outside in the hole on the rear plate.

(b) Put the back up rings and the X-ring into the front plate.(Fig. 32)

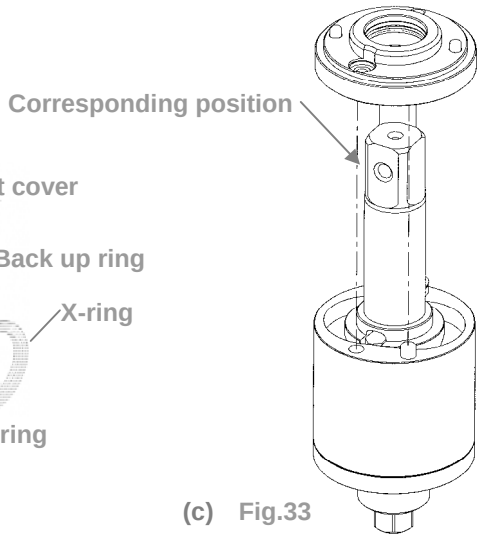
(c) Install the front cover to the pulse cylinder by the corresponding positions. (Fig. 33).



(a) Fig.31



(b) Fig.32



(c) Fig.33

3.2 After installing the front cover, put the O-ring on the greasing screw, then tighten the greasing screw but not tighten it completelv.

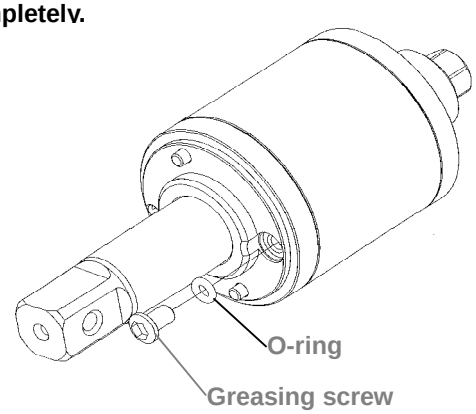


Fig.34

4.0 Pulse Cylinder Seat and Lock Nut of Pulse Cylinder Assembly

4.1 Place the O-ring inside the bottom of the pulse cylinder seat, then combine the pulse cylinder seat with the assembled pulse cylinder unit. (Fig. 35, Fig. 36)

⚠ **Make sure the half-circle gaps aim at the corresponding positions.**

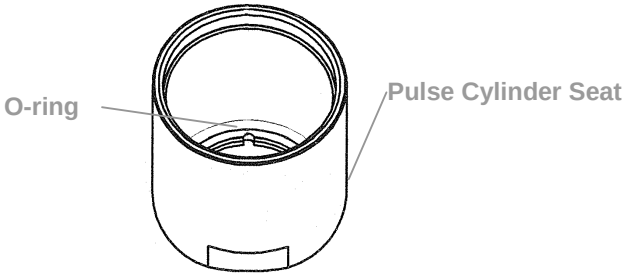


Fig. 35

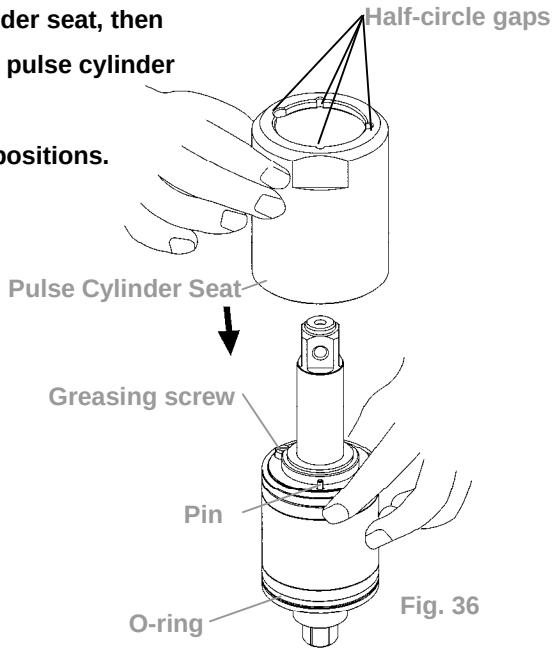


Fig. 36

4.2 Use the appliance to push out the rear plate from the pulse cylinder seat. See Chart 2 in reference to the proper appliance selection. (Fig. 37)

4.3 Fill up the interior pulse cylinder with the pulse oil about 90% full by a syringe. (Fig. 38)

4.4 **Install the rear plate taken from the step 2 on the pulse cylinder. Note the corresponding positions**

4.5 **Turn the assembled unit up side down so the rear plate is at the bottom. Then press the pulse cylinder seat all the way down to the fixed position. Make sure the corresponding positions are matched exactly.**

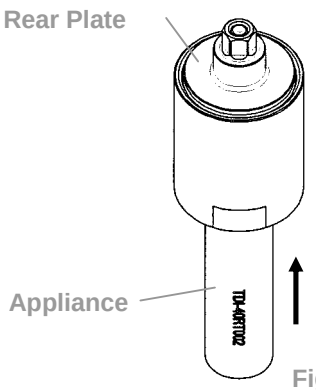


Fig.37

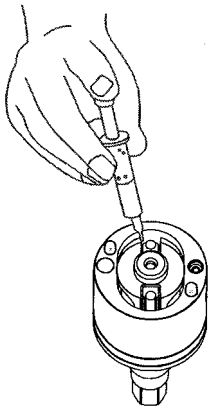


Fig.38

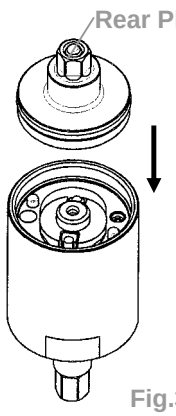


Fig.39

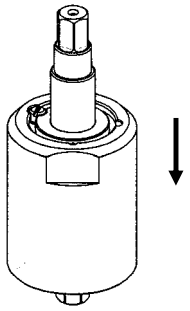


Fig.40

4.6 **Fix the pulse cylinder seat by a vise. Use an appliance and a torque wrench then turn clockwise to tighten the lock nut of the pulse cylinder. See Chart 4 in reference to the proper tightness.**
(Note: Loctite® needed when tightening the lock nut of the pulse cylinder)

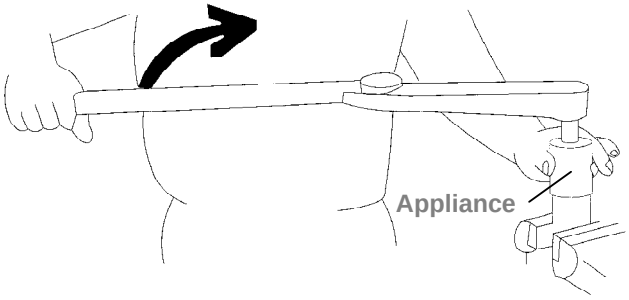


Fig. 41

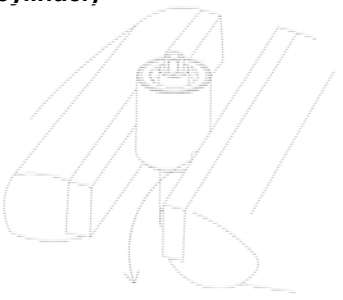

Fixed by a vise

Chart 3

Appliance No.	Apply to
63-TDI-40RT001	FLEX-40P, FLEX-50P, FLEX-60P,FLEX-30PX , FLEX-40PX , FLEX-50PX , FLEX-60PX
63-TDI-70RT001	FLEX-70P
63-TDI-90RT001	FLEX-90P
63-TDI-100RT001	FLEX-100P
63-TDI-130RT001	FLEX-130P
63-TDI-150RT001	FLEX-150P

Chart 4

Model No.	Tighten torque
FLEX-40P	80 N.M
FLEX-50P	80 N.M
FLEX-60P	80 N.M
FLEX-70P	100 N.M
FLEX-90P	120 N.M
FLEX-100P	140 N.M
FLEX-130P	150 N.M
FLEX-150P	150 N.M
FLEX-30PX	80 N.M
FLEX-40PX	80 N.M
FLEX-50PX	80 N.M
FLEX-60PX	80 N.M

4.7 After completing the above steps, test to make sure the square drive of the anvil rotates freely.

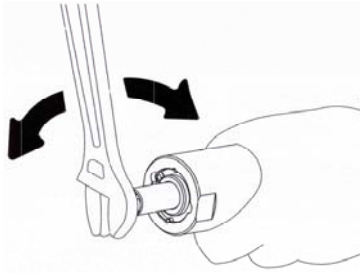


Fig. 42

5.0 Steps for Pulse Cylinder Oiling

5.1 Loosen the greasing screw, and inject the authorized oil by a syringe until it is full and overflow.

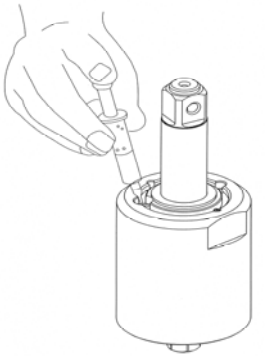


Fig. 43

5.2 Take the unit and dip it in an oil tank, then rotate the anvil by a wrench to release air and the unit would be full with oil completely.

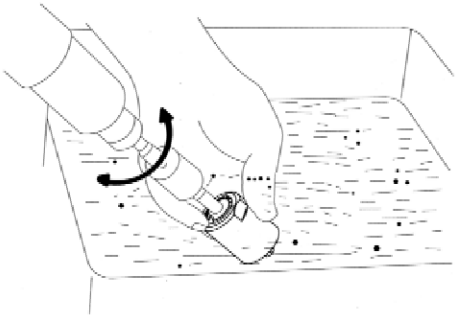


Fig. 44

5.3 Use the screwdriver to tighten the greasing screw, Fig. 45.

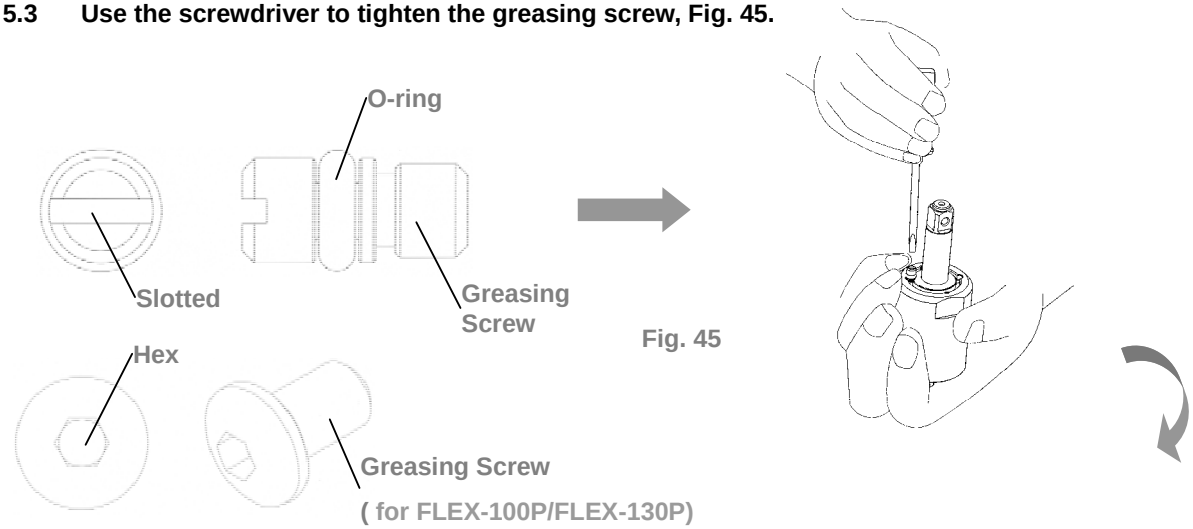


Fig. 45

5.4 Use an air spray gun to blow off the oil on the cylinder seat, Fig. 46.

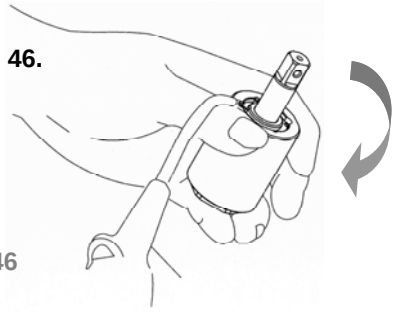


Fig. 46

5.5 Loosen the greasing screw again and use a syringe to draw out a little amount of oil (see Chart 5) . Finally, tighten the greasing screw back to the pulse cylinder unit, Fig.47

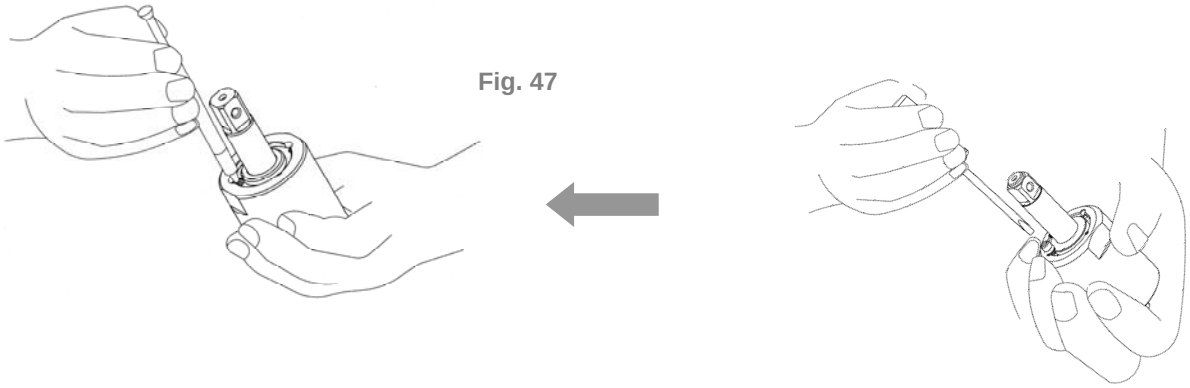


Fig. 47

Chart 5

Model No.	Amount of oil draw
FLEX-40P	0.25 CC
FLEX-50P	0.4 CC
FLEX-60P	0.5 CC
FLEX-70P	0.6 CC
FLEX-90P	0.7 CC

Model No.	Amount of oil draw
FLEX-100P	1.2 CC
FLEX-130P	1.2 CC
FLEX-150P	1.2 CC
FLEX-30PX	0.2 CC
FLEX-40PX	0.25 CC
FLEX-50PX	0.4 CC
FLEX-60PX	0.5 CC

6.0 Torque Testing

6.1 Put the washer on the front end of the anvil, and then put another washer on the rear plate.

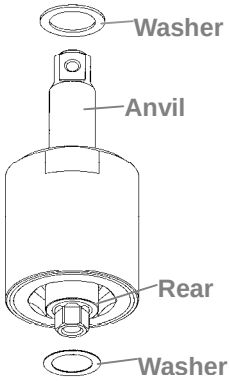


Fig.48

6.2 Tighten the clutch housing by hands.

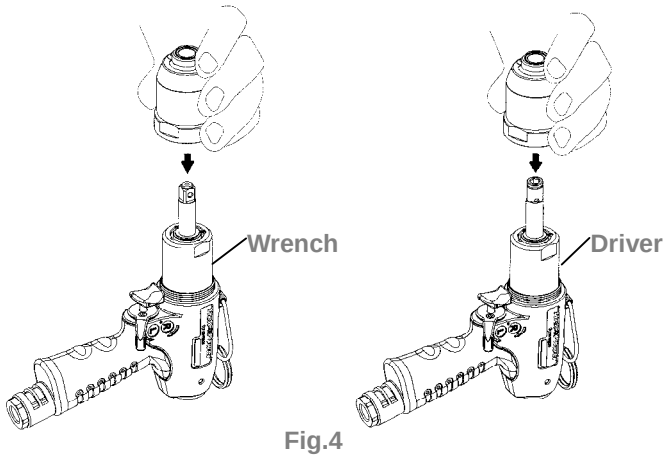


Fig.4

6.3 Test the forward torque by a digital torque tester and make sure the tool pulses smoothly.

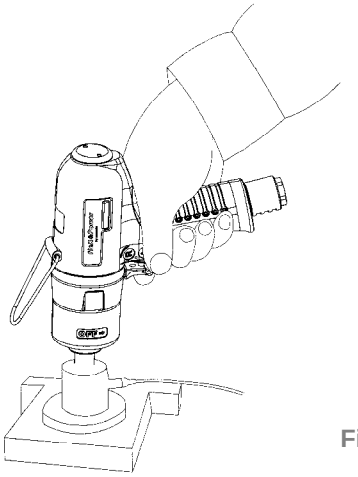
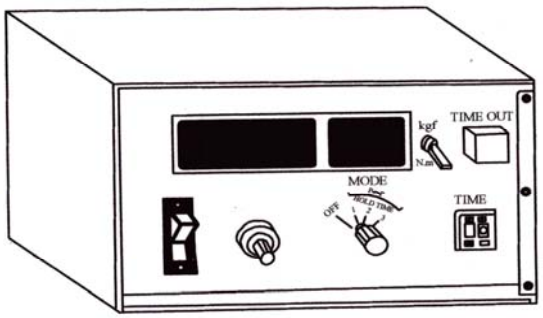


Fig. 50

Digital Torque Tester



Model No.	Air inlet pressure 85 PSI
	N.M (at least)
FLEX-40P	15.5
FLEX-50P	25
FLEX-60P	35
FLEX-70P	55
FLEX-90P	90
FLEX-100P	125
FLEX-130P	145
FLEX-150P	210
FLEX-30PX	12.5
FLEX-40PX	14
FLEX-50PX	22
FLEX-60PX	28

Chart 6

6.4 If the test result is NG (see Chart 6 in reference to the torque standard), MUST draw out or add a little mount of oil and do the following steps:

6.4.1 Loosen the pulse unit housing by hands.

6.4.2 Loosen the greasing screw.

6.4.3 Draw out or add a little amount of oil.

6.4.4 Tighten the greasing screw back.

6.4.5 Tighten the pulse unit housing.

6.4.6 Test the torque again. If the test result is still NG, repeat the Steps 6.4.1 to 6.4.5 until the desired torque is reached.

7.0 Pulse Unit Housing Assembly

Fix the housing by a vise. Turn the wrench in counter clockwise direction to tighten the pulse unit housing.

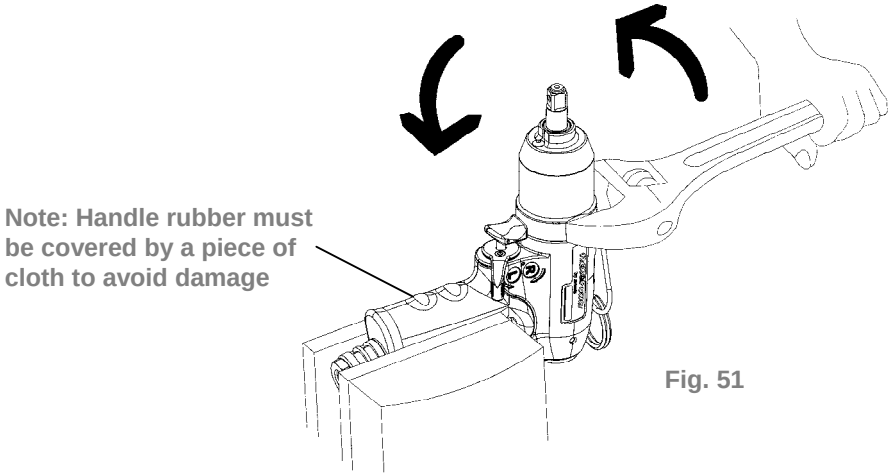


Fig. 51

8.0 Anvil Unit Assembly: (for FLEX-30PX, FLEX-40PX, FLEX-50PX, and FLEX-60PX)

(a) Place the steel ball, the quick change holder, the spring, and the hold spacer orderly as Fig. 52 showed.

(b) Put the anvil collar on the Appliance # 63-TDI-40RT006. See Fig. 53.

(c) Place the 63-TDI-40RT006 on the hex-hole of the anvil, then put the Appliance # 63-TDI-40RT005 on the 63-TDI-40RT006 and taps it making sure the anvil collar sleeves into the anvil at proper position. See Fig. 53.

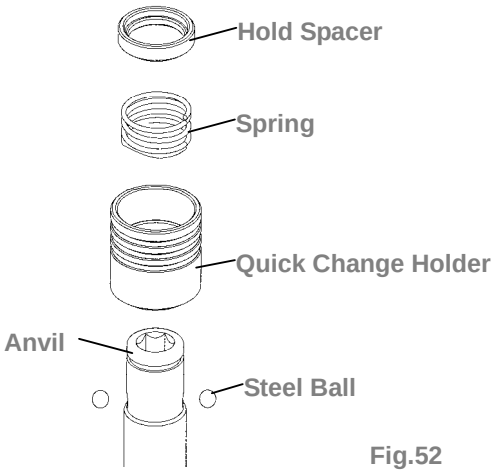


Fig.52

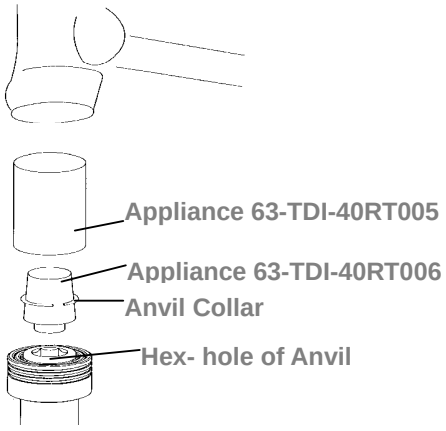


Fig. 53

- **HOUSING AND MOTOR SET DISASSEMBLY:**

1.0 Cylinder Unit Disassembly:

1.1 Take a piece of cloth to cover the housing handle and fix the tool with a vise. Use the appliance (see Chart 7) to take the lock nut out of cylinder by turning clockwise.

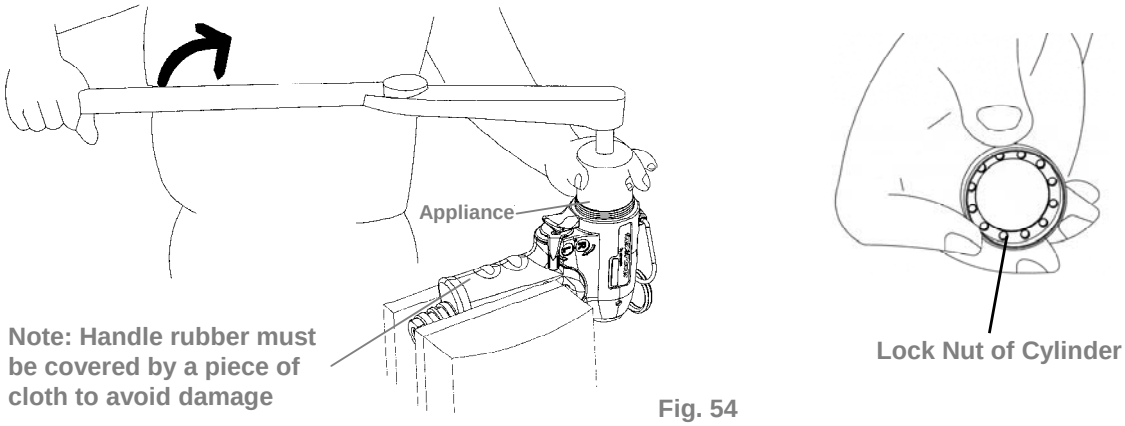


Fig. 54

Appliance No.	Apply to
63-TDI-40RT004	FLEX-40P, FLEX-50P, FLEX-60P, FLEX-30PX ,FLEX-40PX , FLEX-50PX ,FLEX-60PX
63-TDI-90RT003	FLEX-70P、FLEX-90P
63-TDI-100RT003	FLEX-100P
63-TDI-130RT003	FLEX-130P
63-TDI-150RT003	FLEX-150P

Chart 7

1.2 Fix the housing in an opposite position. Use the appliance to loosen the lock nut of rear plate of cylinder in counter clockwise direction.

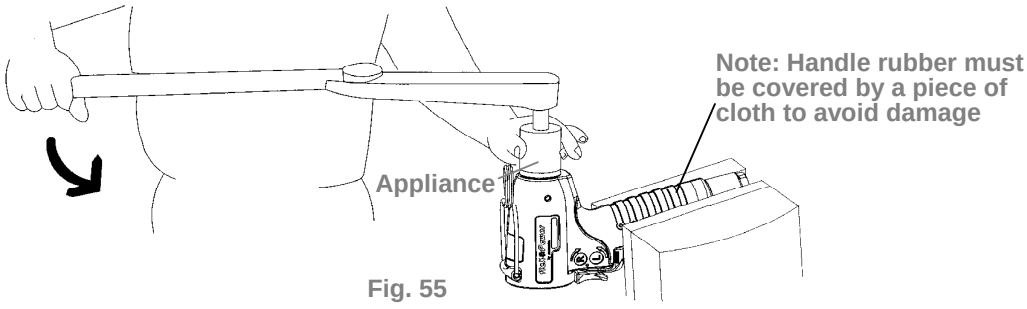


Fig. 55

Appliance No.	Apply to
63-TDI-40RT003	FLEX-40P, FLEX-50P, FLEX-60P, FLEX-30PX , FLEX-40PX , FLEX-50PX , FLEX-60PX
63-TDI-100RT002	FLEX-70P, FLEX-90P, FLEX-100P
63-TDI-130RT002	FLEX-130P
63-TDI-150RT002	FLEX-150P

1.3 Take a piece of cloth and lay it on a Chart before disassembly. Hold the housing and tap slightly with a plastic stick to push the cylinder unit out.

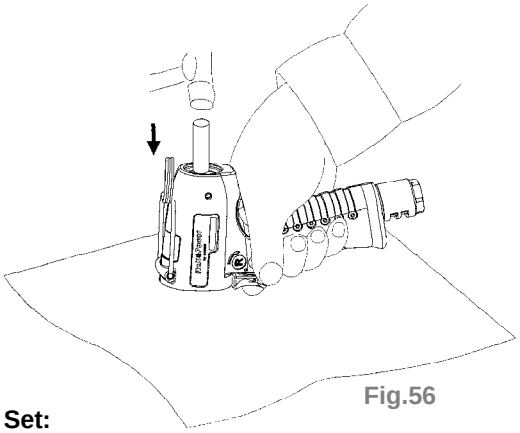


Fig.56

1.4 Parts of Motor Set:

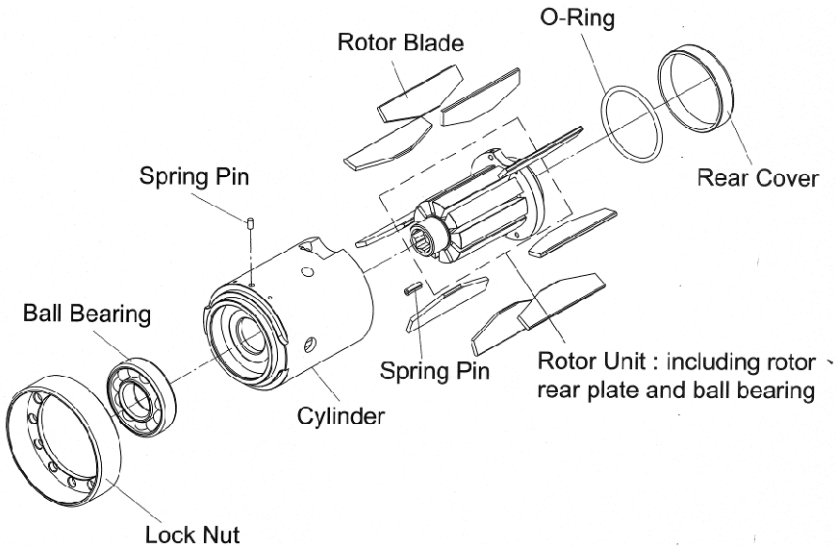


Fig. 57

The rotor and the rear end plate must be press fit. The clearance of the two parts must be in between 0.01~ 0.02 mm. It would not be easy to assemble the two parts by repair centers in general. Therefore, as there is a need of repair on the parts of the rotor, the rear end plate, and the ball bearing, we strongly suggest replacing a complete ROTOR UNIT, which is including the rotor, the rear plate, and the ball bearing. The rotor unit would be full assembled and well-measured before delivery.

3.0 <u>Air Inlet Disassembly</u>:

Take the air inlet unit apart from the end of the housing. The parts of O-ring, Muffler, Exhaust deflector are separated by each other

.

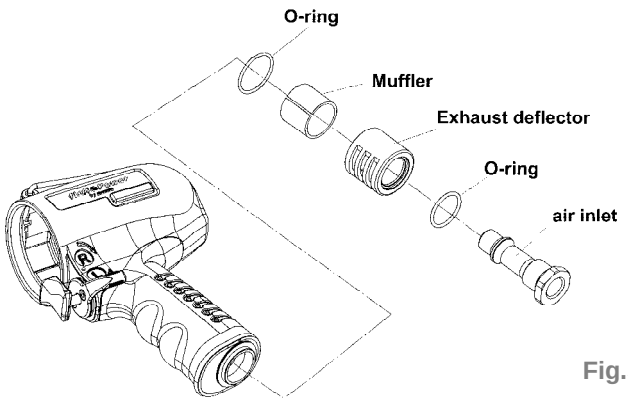


Fig.58

3. **Trigger Set Disassembly:**

Remove the pin to take apart the valve sleeve set. All the parts are disassembled as the below drawing showed.

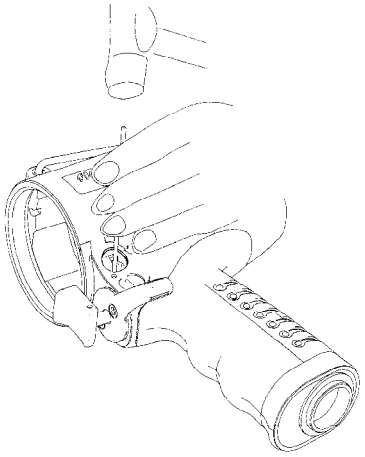
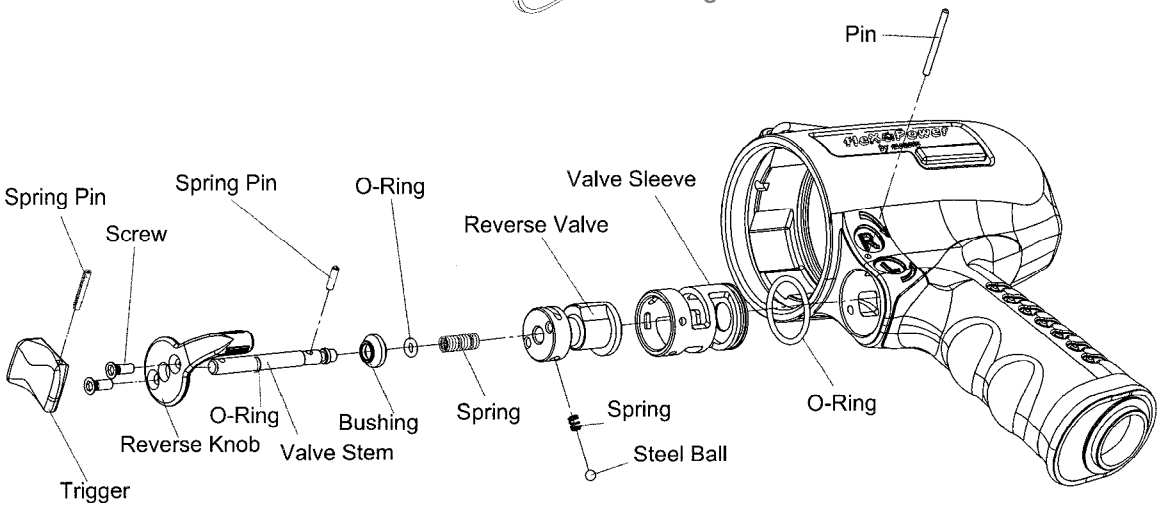


Fig. 59



- **HOUSING AND MOTOR SET ASSEMBLY:**

1. **Housing and Air Inlet Assembly:**

Install and tighten the parts of air inlet one by one and orderly. (NOTE: Apply the Loctite® on the threads of air inlet before assembly)

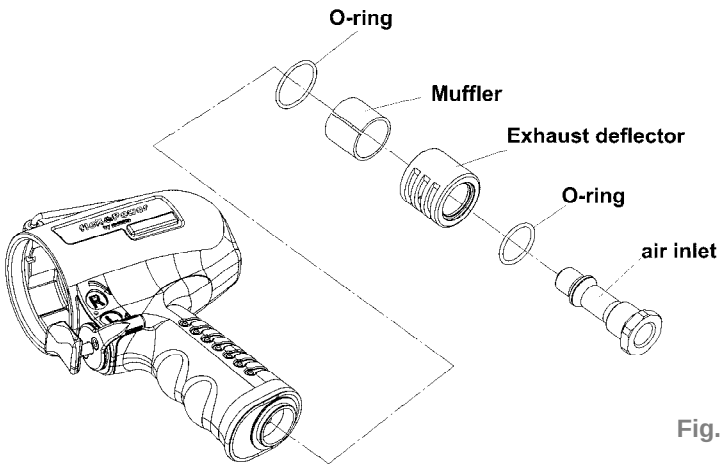


Fig. 60

2. <u>Housing and Trigger Set Assembly:</u>

Install the parts of the trigger set orderly (see Fig. 61 drawing for reference). Then, insert the pin to fix all the parts. And, install the hanger to complete the assembly.

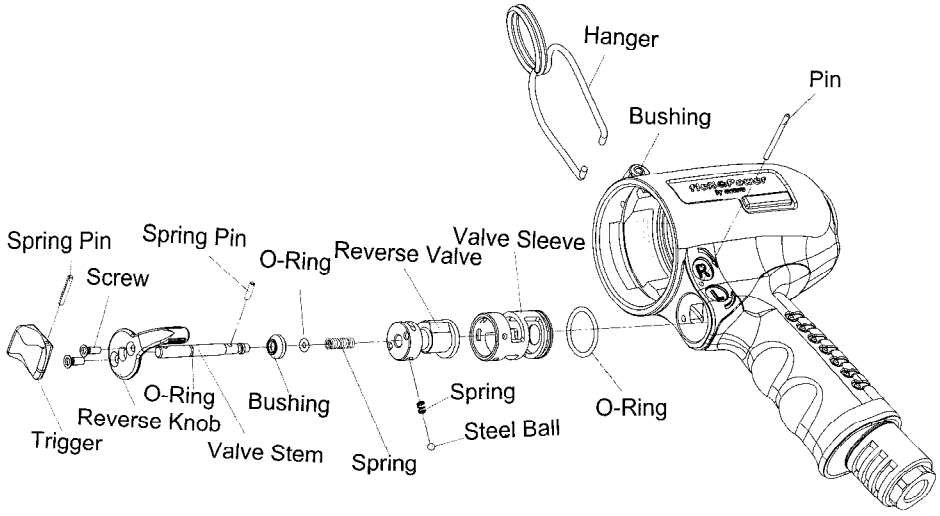


Fig. 61

3.0 Cylinder Unit Assembly

3.1 Place the rotor blades into the rotor. Insert the spring pin A and B into the cylinder. Make sure the pins aim at the pin holes when putting the cylinder down.

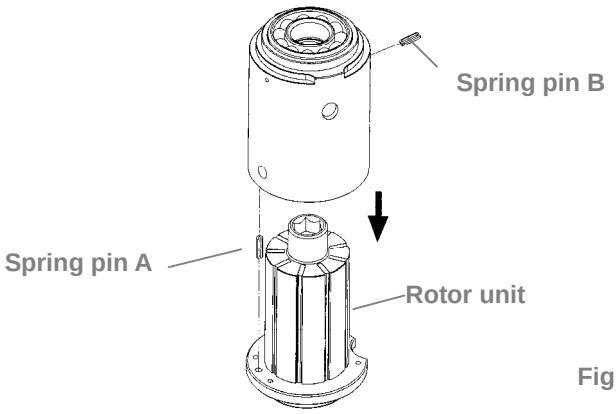


Fig. 62

3.2 Install the O-ring and the rear cover to the rear plate. The motor set assembly is complete.

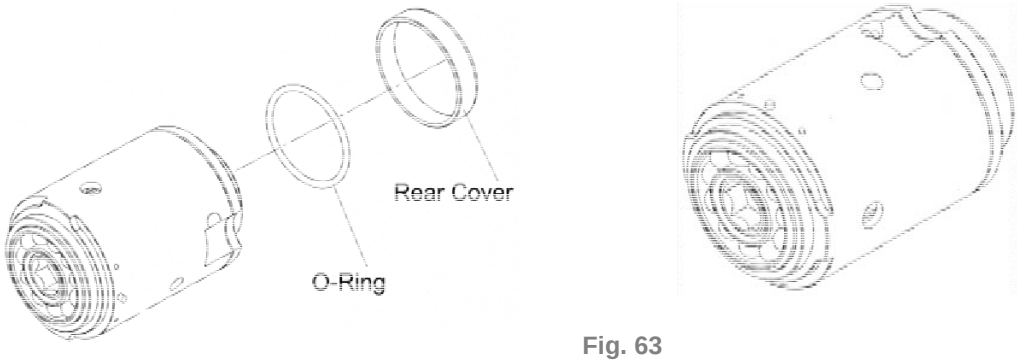


Fig. 63

4.0 Housing and Motor Set Assembly

Place two O-rings into the housing, then the motor set. Be sure the direction is correct when putting the motor set in, i.e. the pin on the side cylinder must aim at the hole to fix position as Fig. 64 showed. Finally, place the O-ring and the lock nut of the rear cover, Fig.65 to complete the assembly.

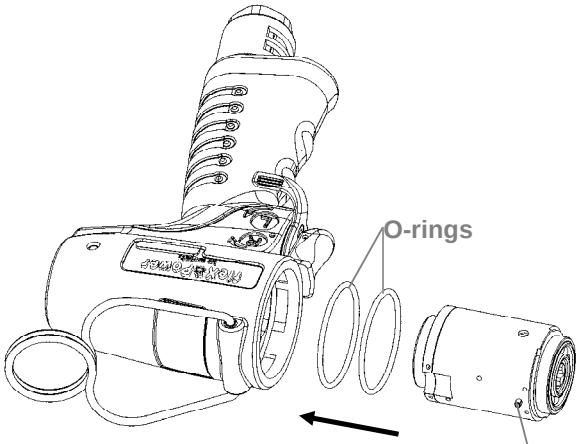


Fig.64

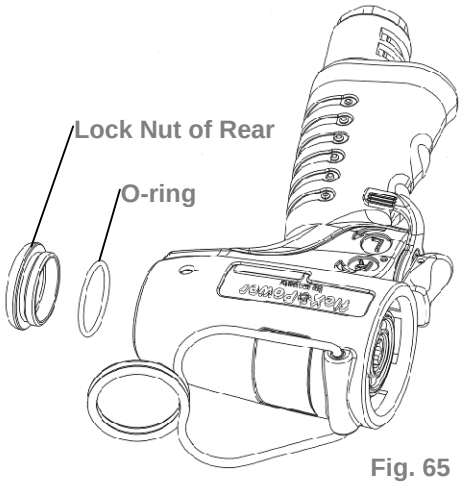


Fig. 65

5.0 Housing and Lock Nut of Cylinder Assembly

Fix the tool by a vise. Place the lock nut of the cylinder nut and tighten by the appliance in counter clockwise direction. Assembly is complete. See the Chart 9 and 10 in reference to appliance use and tighten torque.

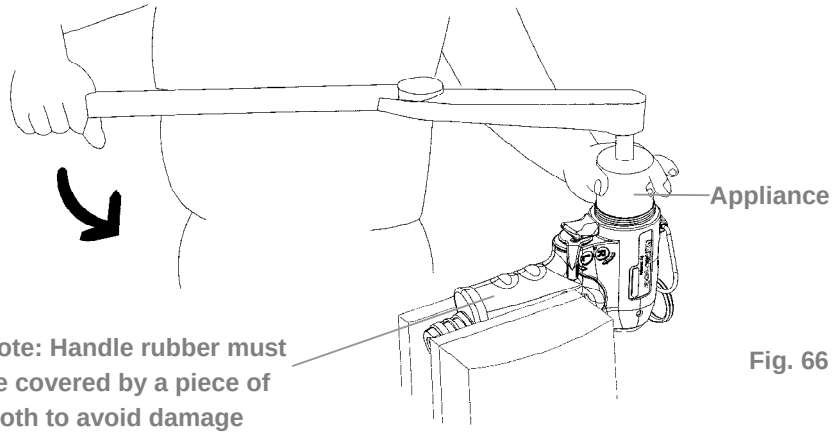


Fig. 66

Appliance No.	Apply to
63-TDI-40RT004	FLEX-40P, FLEX-50P, FLEX-60P, FLEX-30PX ,FLEX-40PX , FLEX-50PX , FLEX-60PX
63-TDI-90RT003	FLEX-70P, FLEX-90P
63-TDI-100RT003	FLEX-100P
63-TDI-130RT003	FLEX-130P
63-TDI-150RT003	FLEX-150P

Chart 9

Model No.	Tighten torque
FLEX-40P	40 N.M
FLEX-50P	40 N.M
FLEX-60P	40 N.M
FLEX-70P	60 N.M
FLEX-90P	60 N.M
FLEX-100P	60 N.M
FLEX-130P	60 N.M
FLEX-150P	60 N.M
FLEX-30PX	40 N.M
FLEX-40PX	40 N.M
FLEX-50PX	40 N.M
FLEX-60PX	40 N.M

Chart 10

After all the assembly is complete, test to make sure the anvil rotates freely, then connect the air hose and test the torque.

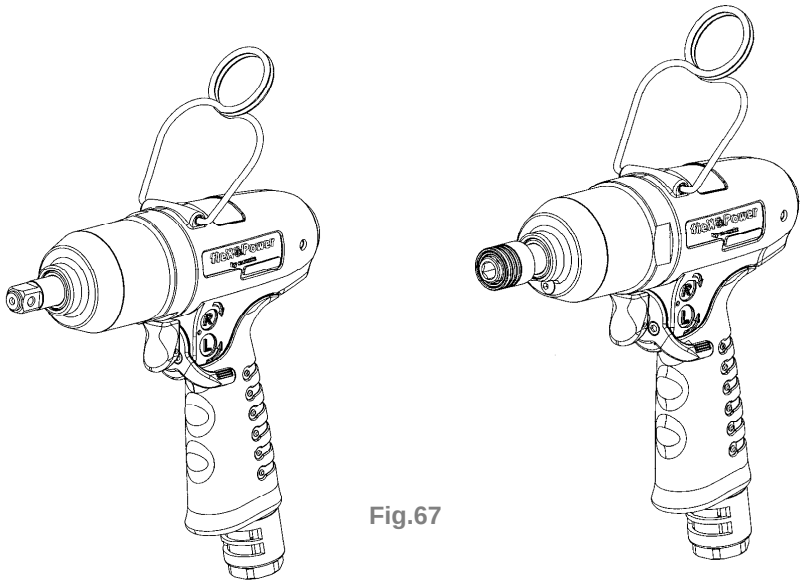


Fig.67

DISASSEMBLY / ASSEMBLY FOR PULSE WRENCHES

FLEXS-40P, FLEXS-50P, FLEXS-60P, FLEXS-70P, FLEXS-90P, FLEXS-100P, FLEXS-130P, FLEXS-150P FLEX-30PX, FLEXS-40PX, FLEXS-50PX, FLEXS-60PX

- **PULSE MECHANISM DISASSEMBLY**

1.0 Quick Change Holder Assembly: (for Model No. FLEX-30PX, FLEXS-40PX, FLEXS-50PX, FLEXS-60PX)

Press down the hold spacer, and find the anvil collar. Use the a needle like stuff to get the anvil collar out, then take the quick change holder, the hold spacer, the spring, and the steel ball apart.

⚠ **The steel ball may drop off when taking out the Quick Change Holder**

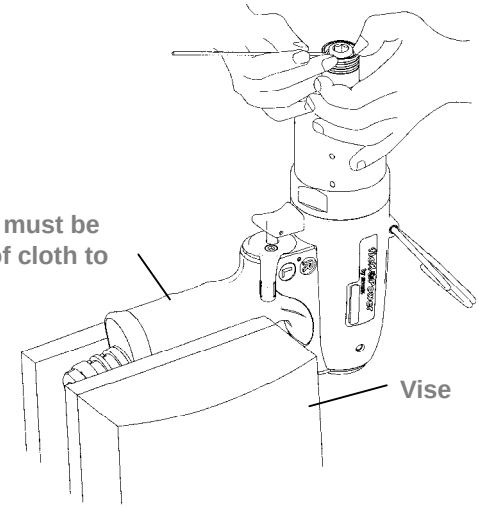


Fig.68

2.0 Pulse Unit Housing Disassembly:

Fix the tool by a vise, use an adjusChart wrench clockwise to loosen the pulse unit housing until the pulse unit housing detach from the motor housing. Then, take the pulse unit out, Fig 69.

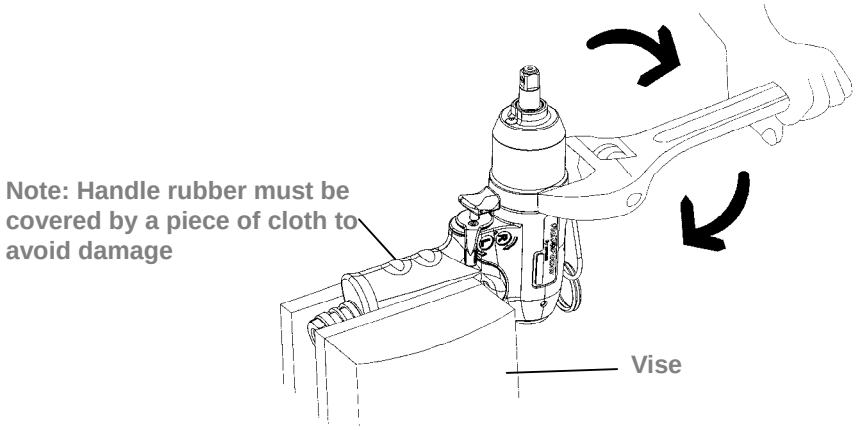


Fig.69

3.0 Pulse Unit Disassembly:

3.1 Fix the pulse unit by a vise. Use the appliance (see Chart 11) to loosen the lock nut on the pulse unit, Fig. 70.

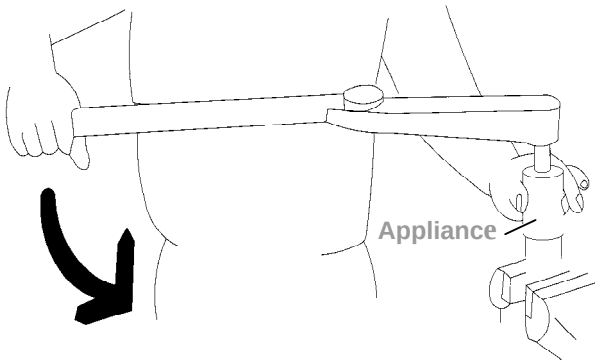


Fig. 70

Note: Loctite® was applied on the lock nut when tools assembled.

Appliance No.	Apply to
63-TDI-40RT001	FLEXS-40P, FLEXS-50P, FLEXS-60P, FLEX-30PX , FLEXS-40PX , FLEXS-50PX , FLEXS-60PX
63-TDI-70RT001	FLEXS-70P
63-TDI-90RT001	FLEXS-90P
63-TDI-100RT001	FLEXS-100P
63-TDI-130RT001	FLEXS-130P
63-TDI-150RT001	FLEXS-150P

Chart 11

3.2 Put the Appliance, see Chart 12, on the anvil and tap on it slightly to detach the interior parts from the pulse unit, Fig. 71.

Appliance No.	Apply to
63-TDI-40RT002	FLEXS-40P, FLEXS-50P, FLEXS-60P, FLEXS-70P,FLEX-30PX ,FLEXS-40PX , FLEXS-50PX , FLEXS-60PX
63-TDI-90RT002	FLEXS-90P, FLEXS-100P, FLEXS-130P, FLEXS-150P

Chart 12

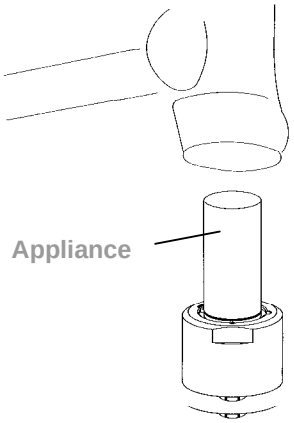
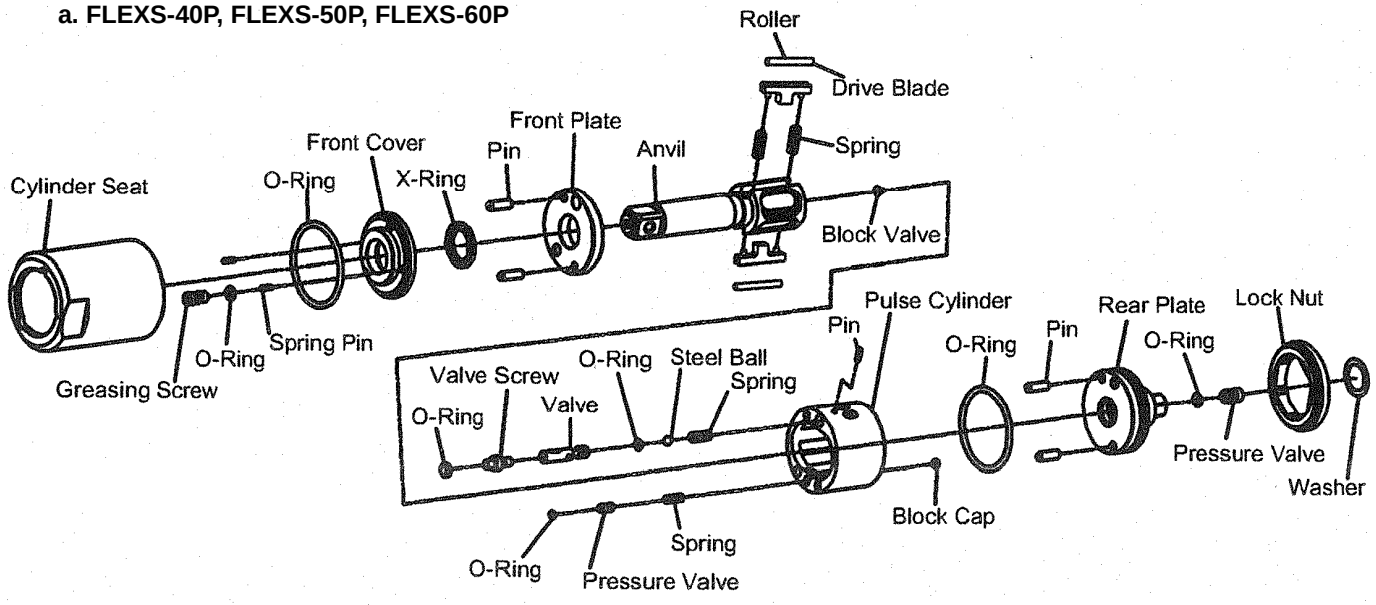


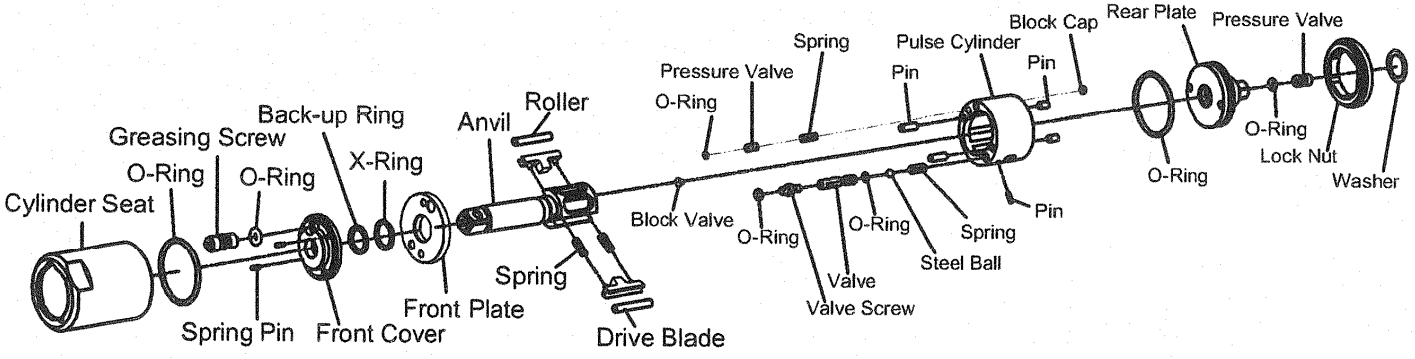
Fig. 71

3.4 Parts of Pulse Cylinder Unit:

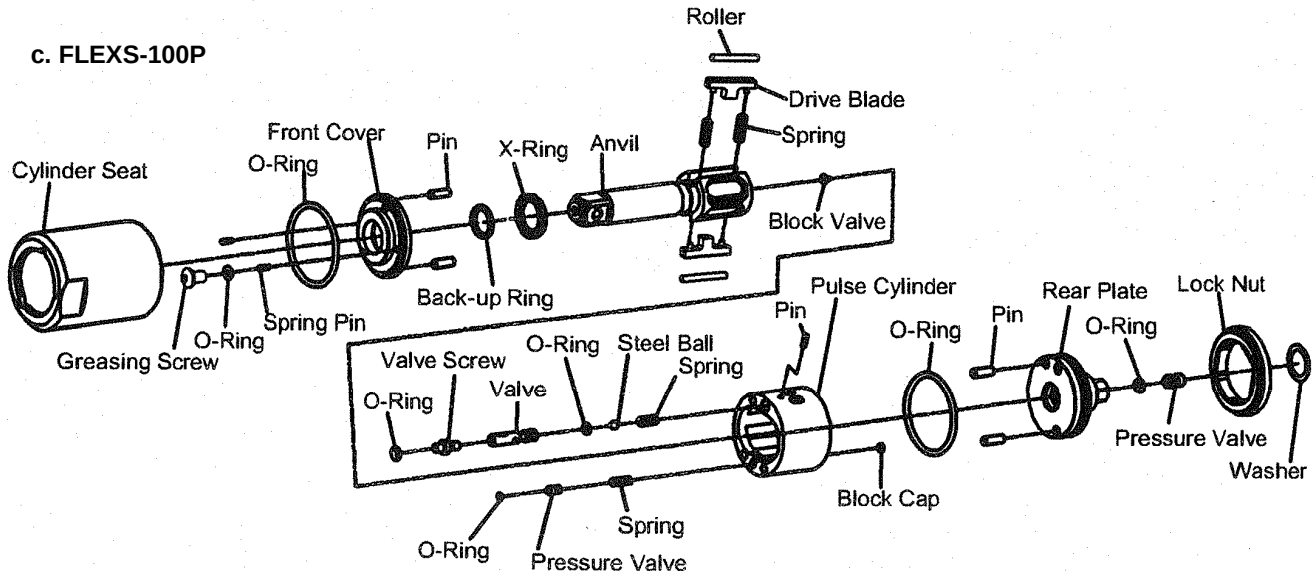
a. FLEXS-40P, FLEXS-50P, FLEXS-60P



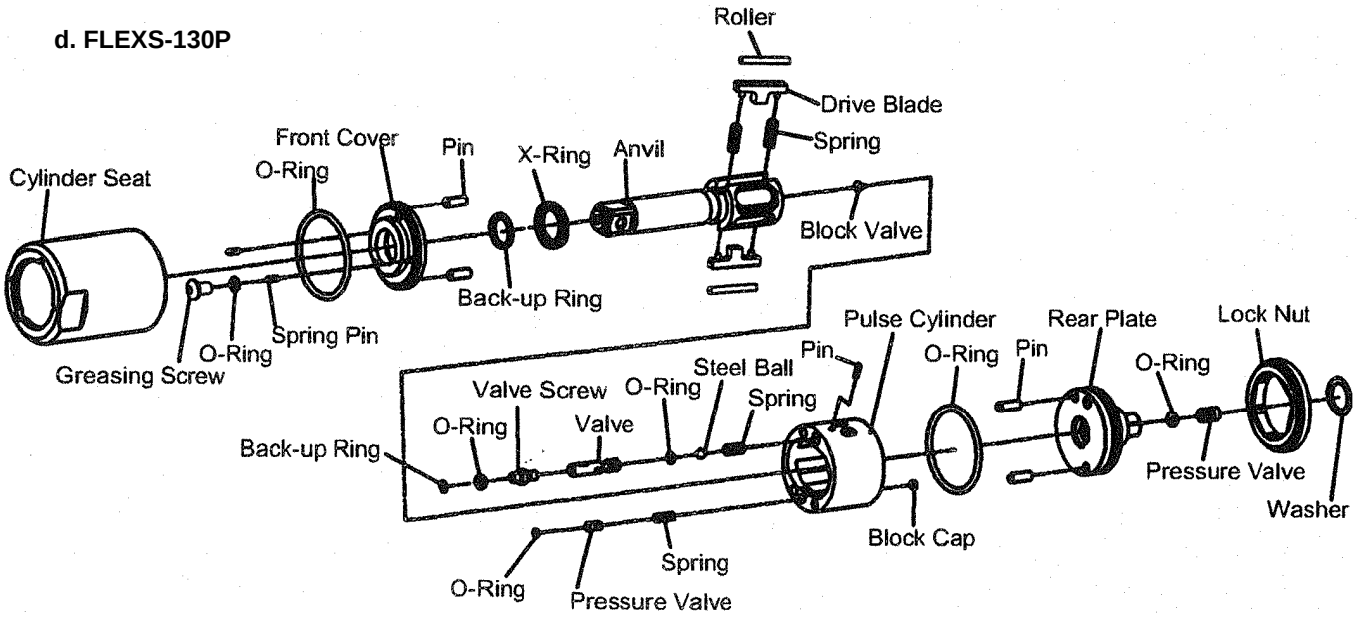
b. FLEXS-70P, FLEXS-90P



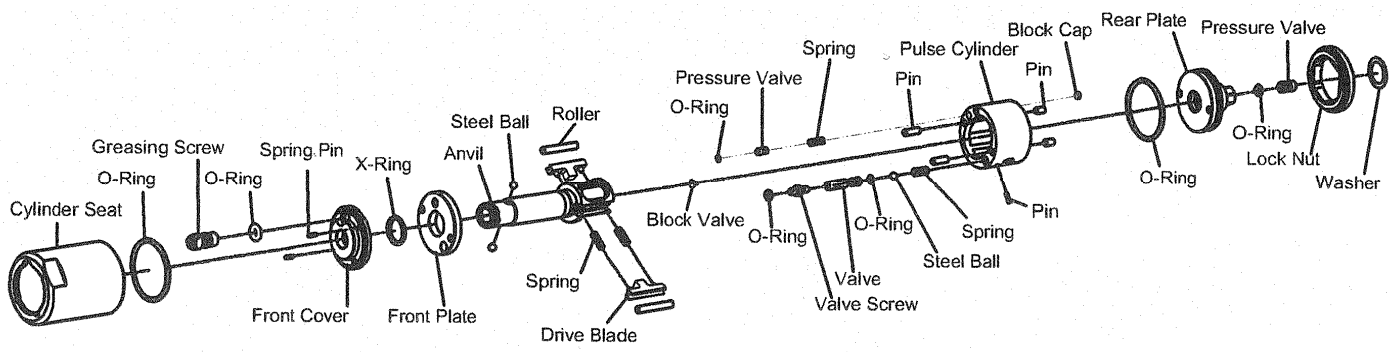
c. FLEXS-100P



d. FLEXS-130P



e. FLEX-30PX ,FLEXS-40PX , FLEXS-50PX , FLEXS-60PX



- **PULSE UNIT ASSEMBLY:**

1.0 Pulse Cylinder Unit Assembly:

1.1 Install the pins on both sides of the pulse cylinder. (Fig. 72)

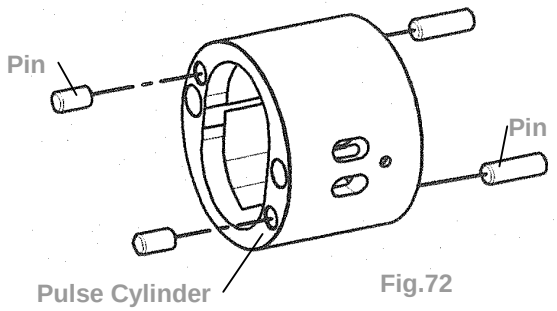


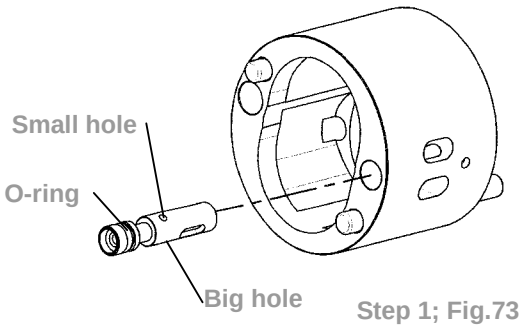
Fig.72

1.2 Sleeve the O-ring to the valve and install the valve into the big hole on the pulse cylinder. (Step 1; Fig.73)

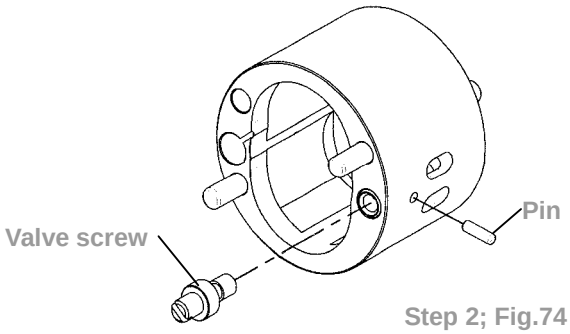
1.3 Insert the pin into the hole on the side of the pulse cylinder. (Step 2; Fig.74)

1.4 Screw the valve screw to the pressure valve. (Step 3; Fig.74)

NOTE: the valve screw MUST screw to the most bottom position certainly.



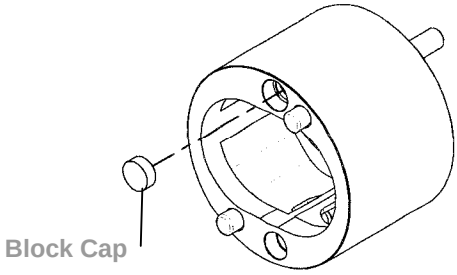
Step 1; Fig.73



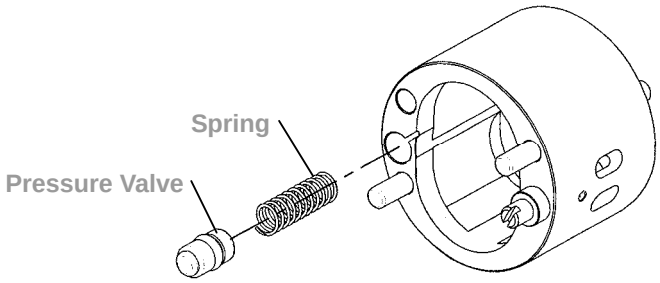
Step 2; Fig.74

1.5 Plug the block cap into the hole and make sure it is parallel to the surface of the pulse cylinder. (Step 4; Fig. 75)

1.6 Put the spring into the hole then install the pressure valve that with the 0-ring sleeved. (Step 5; Fig. 76)



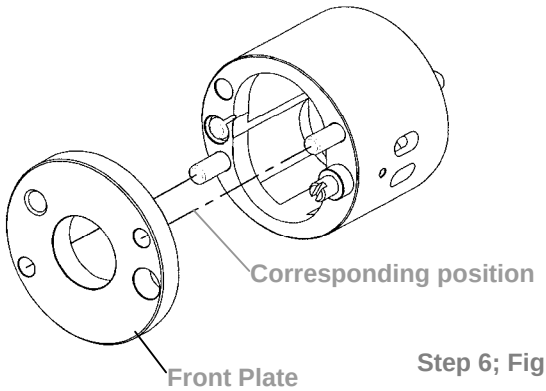
Step 4; Fig.75



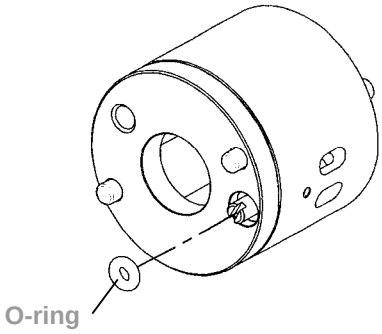
Step 5; Fig.76

1.7 Install the front plate and make sure the corresponding position with the pins. (Step 6; Fig. 77)

1.8 Sleeve the O-ring on the valve screw and press into the hole. Make sure it is parallel to the surface of the front plate. (Step 7; Fig. 78)



Step 6; Fig.77



Step 7; Fig.78

2.0 Anvil Unit Assembly

Install the roller to the drive blade, then insert the springs into the anvil and press the blades from both sides. Finally put the anvil to the pulse cylinder to complete the anvil unit assembly.

MUST follow the direction as Fig.81 showed while installing the anvil unit into the pulse cylinder; be sure to aim at the highest points by two sides of the interior pulse unit and press the two drive blades in slowly.

NOTE: RECOMMENDED UTILIZE THE SPECIAL FIXTURE FOR EASIER INSTALLATION FOR THE ANVIL WITH THE ROLLER AND THE BLADE INTO THE CYLINDER (No picture showed)

FIXTURE PART No	TOOL MODEL
63-I40AST-001K	FLEXS-40P, FLEXS-50P, FLEXS-60P, FLEXS-40PX, FLEXS-50PX, FLEXS-60PX,
63-I70AST-001K	FLEXS-70P
63-I90AST-001K	FLEXS-90P
63-I100AST-001K	FLEXS-100P
63-I130AST-001K	FLEXS-130P
63-I150AST-001K	FLEXS-150P

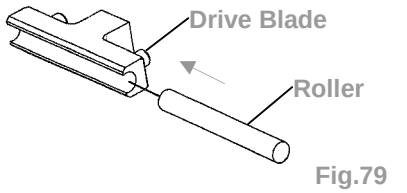


Fig.79

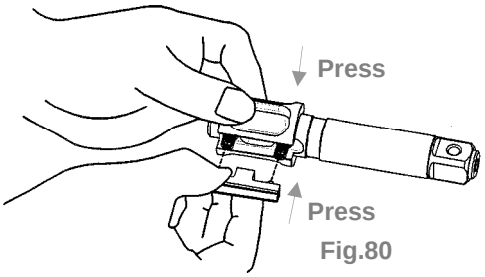


Fig.80

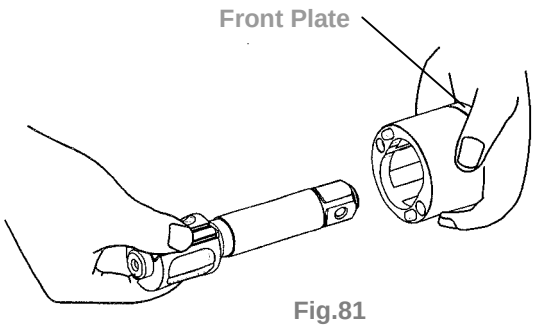


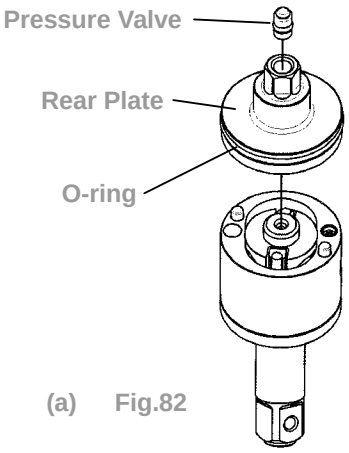
Fig.81

3.0 Front Cover and Rear Plate of Pulse Cylinder Assembly (For the models: FLEXS-40P, FLEXS-50P, FLEXS-60P, FLEX-30PX ,FLEXS-40PX , FLEXS-50PX , FLEXS-60PX)

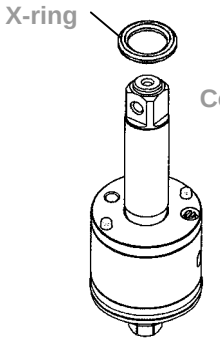
3.1 (a) Install the rear plate to the pulse cylinder and be sure the positions of the pin and the hole are corresponded. (Fig. 82) Then, plug the pressure valve with the convex facing outside in the hole on the rear plate.

(b) Put the X-ring on the anvil with the oil applied. (Fig. 83)

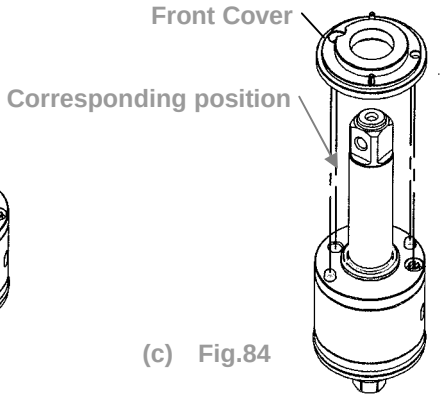
(c) Install the front cover to the pulse cylinder by the corresponding positions. (Fig. 84)



(a) Fig.82



(b) Fig.83



(c) Fig.84

3.2 After installing the front cover, put the O-ring on the greasing screw, then tighten the greasing screw but not tighten it completely.

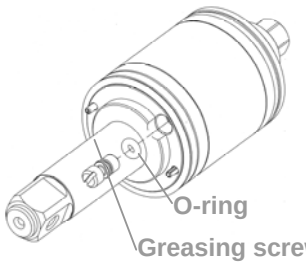


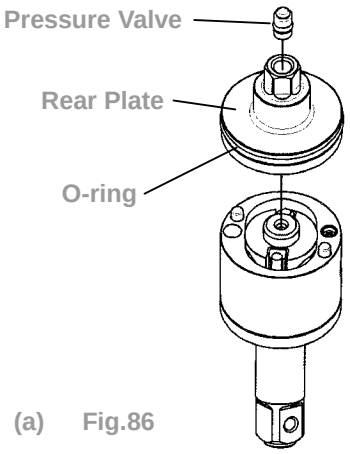
Fig.85

➔ FLEXS-70P, FLEXS-90P

3.1 (a) Install the rear plate that with the O-ring sleeved (Fig. 86). Make sure the positions of the pin and hole are exactly matched. Then, plug the pressure valve with the convex facing outside in t he hole on the rear plate.

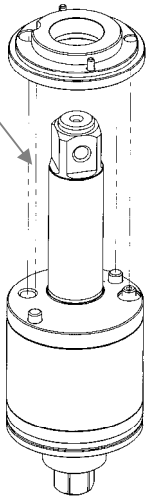
(b) Put the back up ring and the X-ring into the front cover. (Fig. 87)

(c) Install the front cover to the pulse cylinder by the corresponding positions. (Fig. 88)



(a) Fig.86

(b) Fig.87



(c) Fig.88

3.2 After installing the front cover, put the O-ring on the greasing screw, then tighten the greasing screw but not tighten it completely.

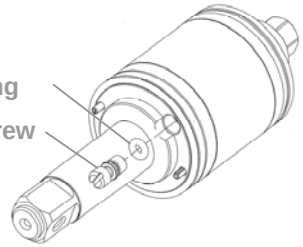


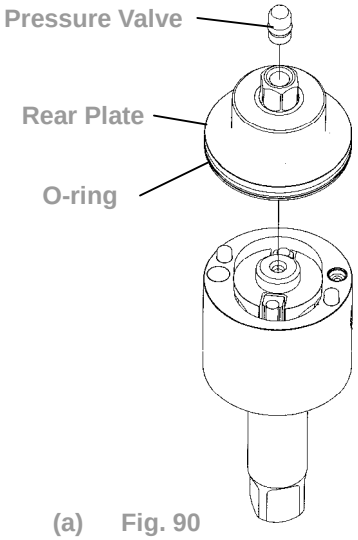
Fig.89

➔ **FLEXS-100P**

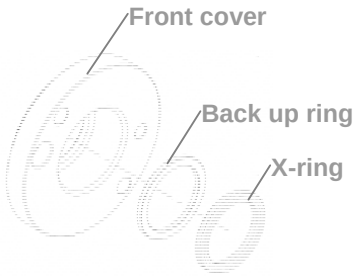
3.1 (a) Install the rear plate that with the O-ring sleeved (Fig. 90). Make sure the positions of the pin and hole are exactly matched. Then, plug the pressure valve with the convex facing outside in the hole on the rear plate.

(b) Put the back up ring and the X-ring into the front plate. (Fig. 91)

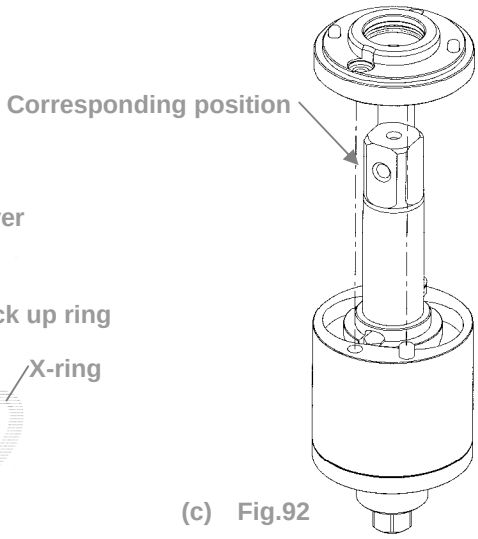
(c) Install the front cover to the pulse cylinder by the corresponding positions. (Fig. 92)



(a) Fig. 90



(b) Fig.91



(c) Fig.92

3.2 After installing the front cover, put the O-ring on the greasing screw, then tighten the greasing screw but not tighten it completely.

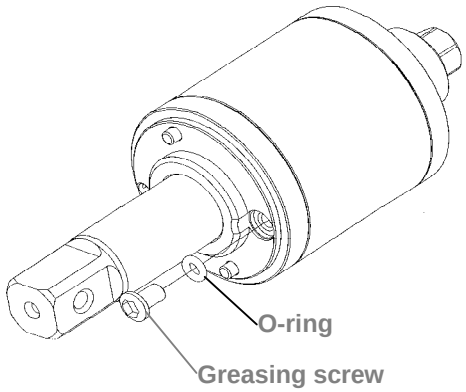


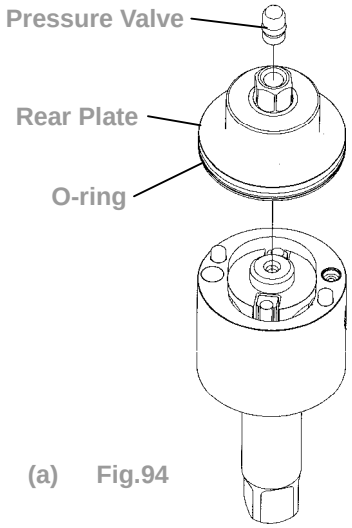
Fig.93

➔ **FLEXS-130P**

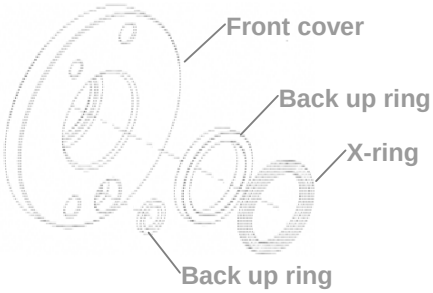
3.1 (a) Install the rear plate that with the O-ring sleeved (Fig. 94). Make sure the positions of the pin and hole are exactly matched. Then, plug the pressure valve with the convex facing outside in the hole on the rear plate.

(b) Put the back up rings and the X-ring into the front plate.(Fig. 95)

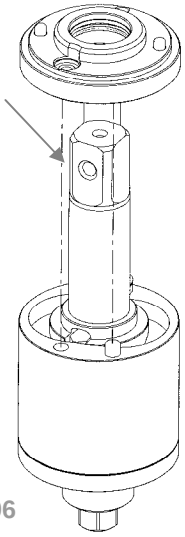
(c) Install the front cover to the pulse cylinder by the corresponding positions. (Fig. 96).



(a) Fig.94



(b) Fig.95



(c) Fig.96

3.2 After installing the front cover, put the O-ring on the greasing screw, then tighten the greasing screw but not tighten it completely.

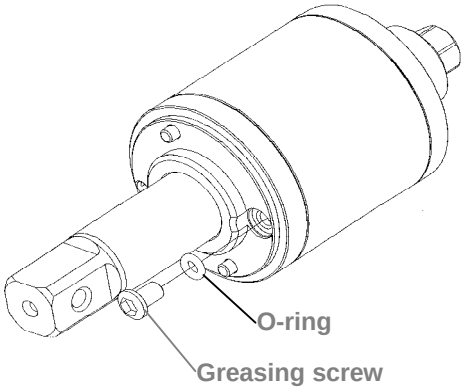


Fig.97

4.0 <u>Pulse Cylinder Seat and Lock Nut of Pulse Cylinder Assembly</u>

4.1 Place the O-ring inside the bottom of the pulse cylinder seat, then combine the pulse cylinder seat with the assembled pulse cylinder unit. (Fig. 98, Fig. 99)

⚠ **Make sure the half-circle gaps aim at the corresponding positions.**

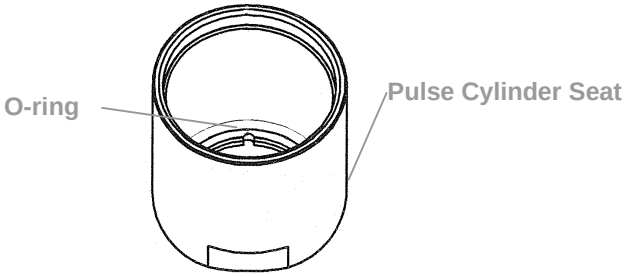


Fig. 98

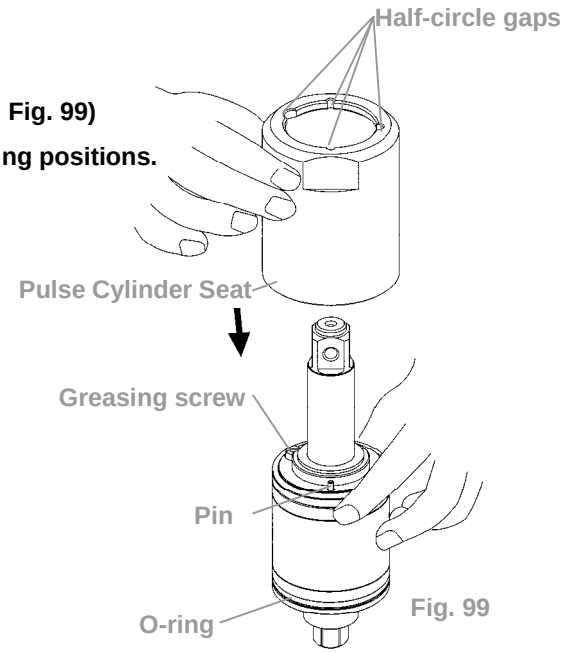


Fig. 99

4.2 Use the appliance to push out the rear plate from the pulse cylinder seat. (See Chart 2) in reference to the proper appliance selection. (Fig. 100)

4.3 Fill up the interior pulse cylinder with the pulse oil about 90% full by a syringe. Put the steel ball and the valve spring into the hole on the pulse cylinder in order. (Fig. 101)

4.4 Install the rear plate taken from the step 2 on the pulse cylinder. Note the corresponding positions.

4.5 Turn the assembled unit up side down so the rear plate is at the bottom. Then press the pulse cylinder seat all the way down to the fixed position. Make sure the corresponding positions are matched exactly.

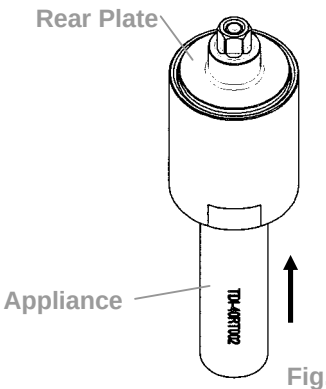


Fig.100

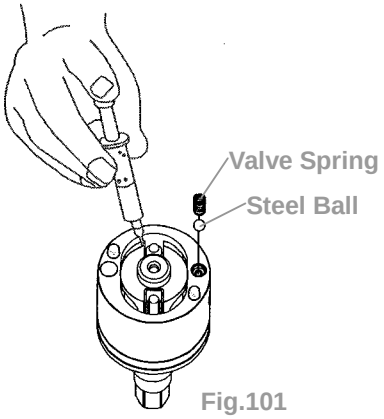


Fig.101

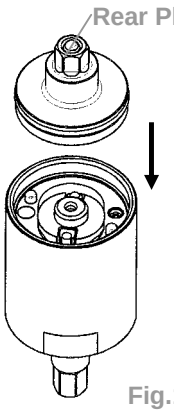


Fig.102

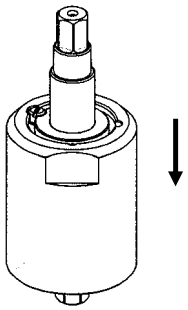


Fig.103

4.6 Fix the pulse cylinder seat by a vise. Use an appliance and a torque wrench then turn clockwise to tighten the lock nut of the pulse cylinder. (See Chart 14) in reference to the proper tightness. (Note: Loctite® needed when tightening the lock nut of the pulse cylinder)

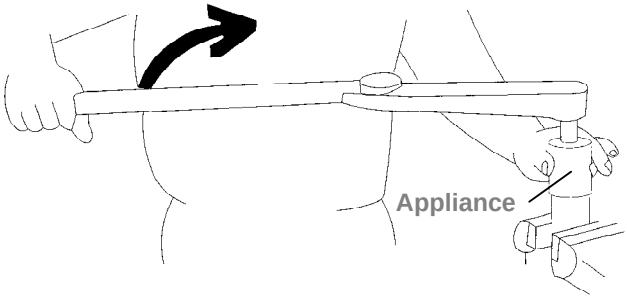
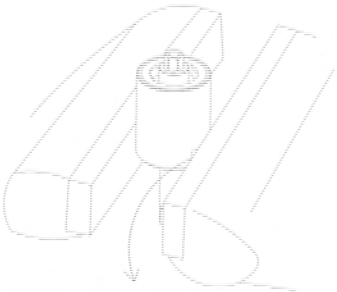


Fig. 104


Fixed by a vise

Appliance No.	Apply to
63-TDI-40RT001	FLEXS-40P, FLEXS-50P, FLEXS-60P, FLEX-30PX , FLEXS-40PX , FLEXS-50PX , FLEXS-60PX
63-TDI-70RT001	FLEXS-70P
63-TDI-90RT001	FLEXS-90P
63-TDI-100RT001	FLEXS-100P
63-TDI-130RT001	FLEXS-130P
63-TDI-150RT001	FLEXS-150P

Chart 13

Model No.	Tighten torque
FLEXS-40P	80 N.M
FLEXS-50P	80 N.M
FLEXS-60P	80 N.M
FLEXS-70P	100 N.M
FLEXS-90P	120 N.M

Model No.	Tighten torque
FLEXS-100P	140 N.M
FLEXS-130P	150 N.M
FLEXS-150P	150 N.M
FLEXS-30PX	80 N.M
FLEXS-40PX	80 N.M
FLEXS-50PX	80 N.M
FLEXS-60PX	80 N.M

Chart 14

4.7 After completing the above steps, test to make sure the square drive of the anvil rotates freely.

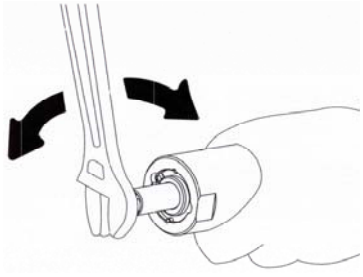


Fig.105

5.0 <u>Steps for Pulse Cylinder Oiling</u>

5.1 Loosen the greasing screw, and inject the authorized oil by a syringe until it is full and overflow.

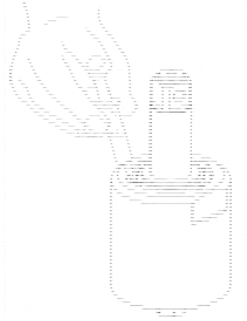


Fig.106

5.2 Take the unit and dip it in an oil tank, then rotate the anvil by a wrench to release air and the unit would be full with oil completely.

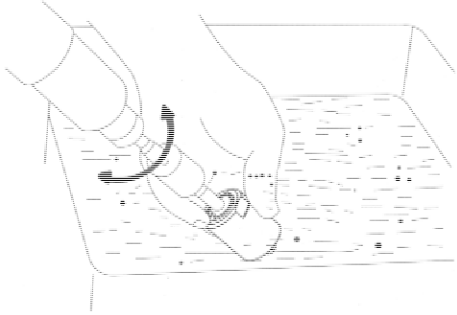


Fig. 107

5.3 Use the screwdriver, the slotted or the hex one (for FLEXS-100P/ FLEXS-130P) to tighten the greasing screw, (Fig. 108)

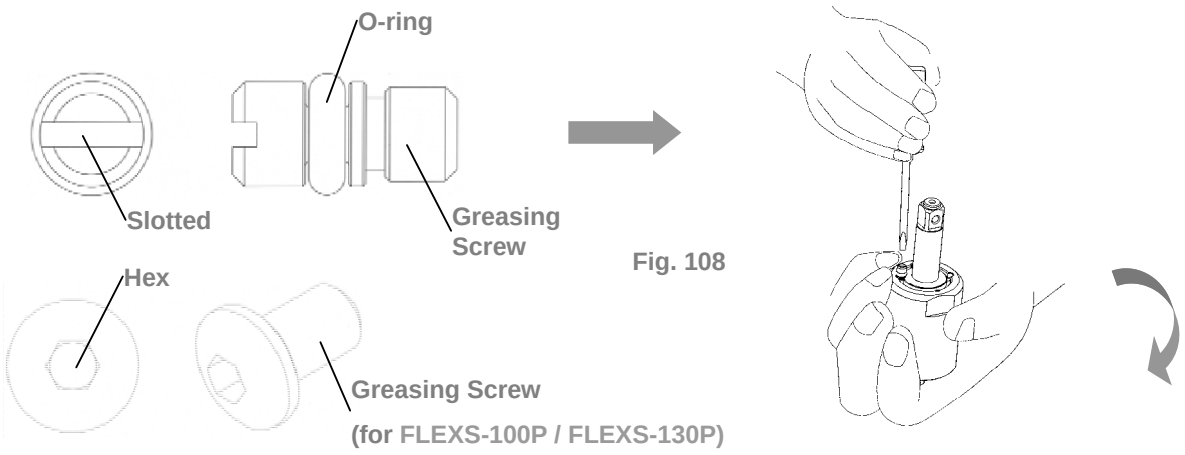


Fig. 108

5.4 Use an air spray gun to blow off the oil on the cylinder seat, (Fig. 109)

Fig. 109

5.5 Loosen the greasing screw again and use a syringe to draw out a little amount of oil (see Chart 15) . Finally, tighten the greasing screw back to the pulse cylinder unit, (Fig. 110).

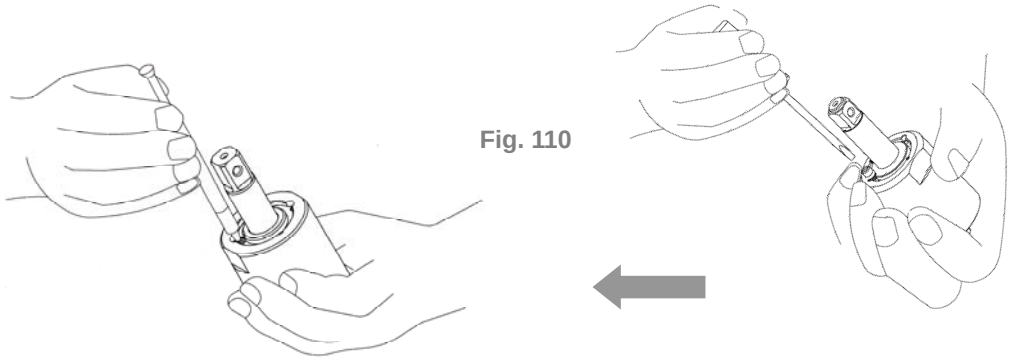


Fig. 110

Model No.	Amount of oil draw
FLEXS-40P	0.2 CC
FLEXS-50P	0.3 CC
FLEXS-60P	0.4 CC
FLEXS-70P	0.4 CC
FLEXS-90P	0.6 CC

Model No.	Amount of oil draw
FLEXS-100P	1.2 CC
FLEXS-130P	1.2 CC
FLEXS-150P	1.2 CC
FLEX-30PX	0.15 CC
FLEXS-40PX	0.2 CC
FLEXS-50PX	0.3 CC
FLEXS-60PX	0.4 CC

Chart 15

6.0 Torque Testing

6.1 Put the washer on the front end of the anvil, and then put another washer to the rear plate.

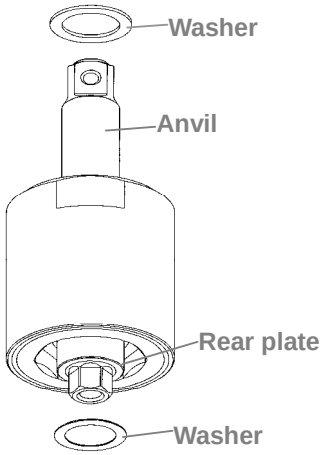


Fig. 111

6.2 Tighten the clutch housing by hands.

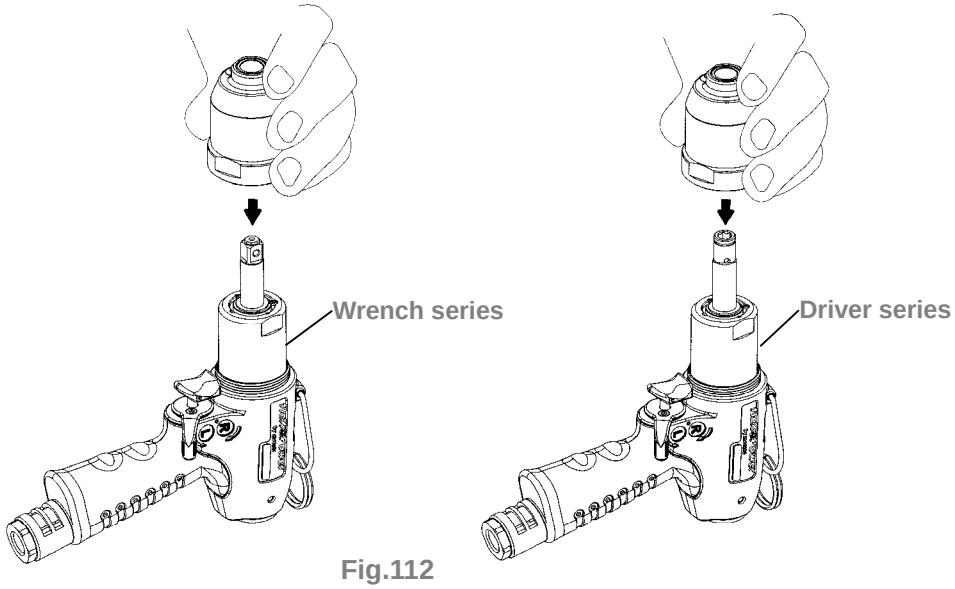


Fig.112

6.3 Test the forward torque by a digital torque tester and make sure the tool pulses smoothly.

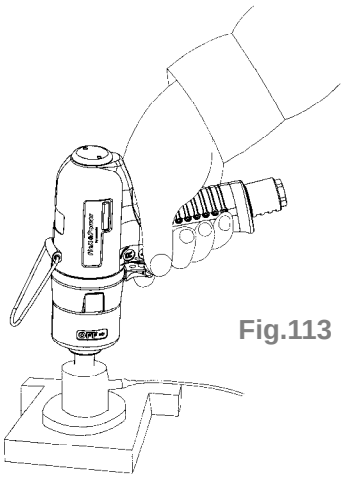


Fig.113

Digital Torque Tester

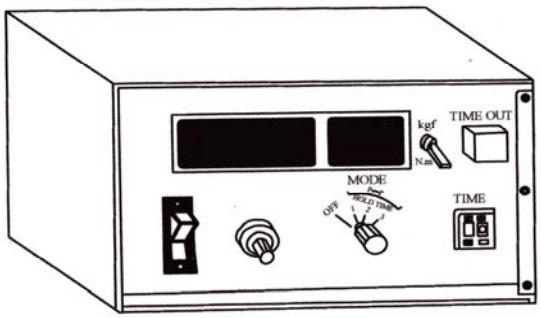


Chart 16

Model No.	Air inlet pressure 85 PSI
	N.M (at least)
FLEXS-40P	15.5
FLEXS-50P	25
FLEXS-60P	35
FLEXS-70P	55
FLEXS-90P	90
FLEXS-100P	125
FLEXS-130P	145
FLEXS-150P	210
FLEXS-30PX	12.5
FLEXS-40PX	14
FLEXS-50PX	22
FLEXS-60PX	28

6.4 If the test result is NG (see Chart 16 in reference to the torque standard), MUST draw out or add a little mount of oil and do the following steps:

6.4.1 Loosen the pulse unit housing by hands.

6.4.2 Loosen the greasing screw.

6.4.3 Draw out or add a little amount of oil.

6.4.4 Tighten the greasing screw back.

6.4.5 Tighten the pulse unit housing.

6.4.6 Test the torque again. If the test result is still NG, repeat the Steps 6.4.1 to 6.4.5 until the proper torque is reached.

7.0 Pulse Unit Housing Assembly

Fix the housing by a vise. Turn the wrench in counter clockwise direction to tighten the pulse unit housing.

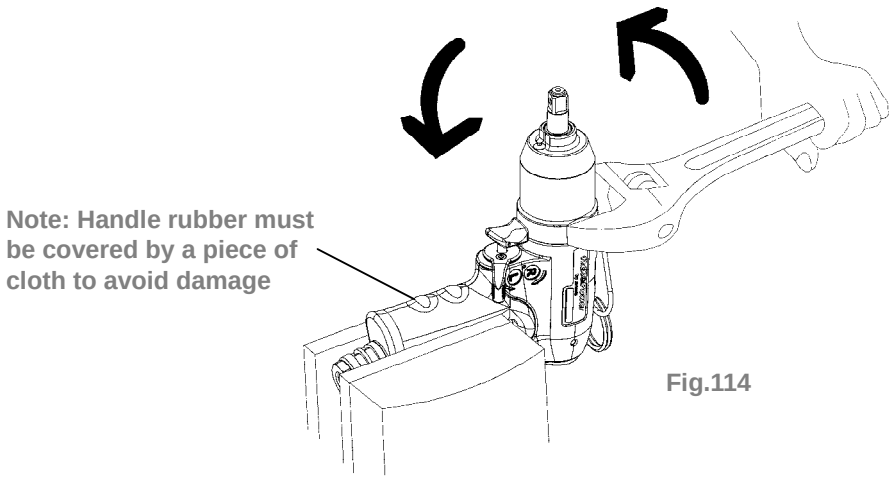


Fig.114

8.0 Anvil Unit Assembly: (for the models: FLEXS-30PX ,FLEXS-40PX , FLEXS-50PX , and FLEXS-60PX)

(a) Place the steel ball, the quick change holder, the spring, and the hold spacer orderly as (Fig. 115 showed).

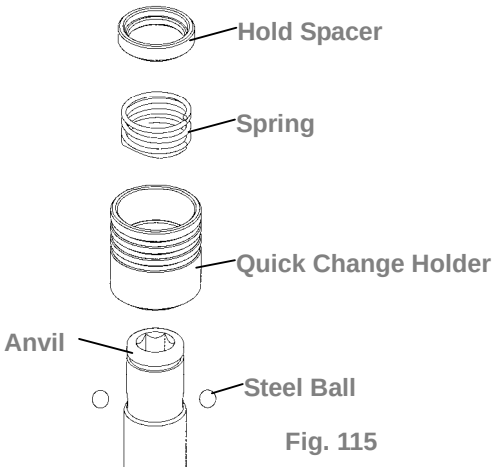


Fig. 115

(b) Put the anvil collar on the Appliance # 63-TDI-40RT006, see Fig. 116.

(c) Place the 63-TDI-40RT006 on the hex-hole of the anvil, then put the Appliance # 63-TDI-40RT005 on the 63-TDI-40RT006 and tap it making sure the anvil collar sleeves into the anvil at proper position, see Fig. 116.

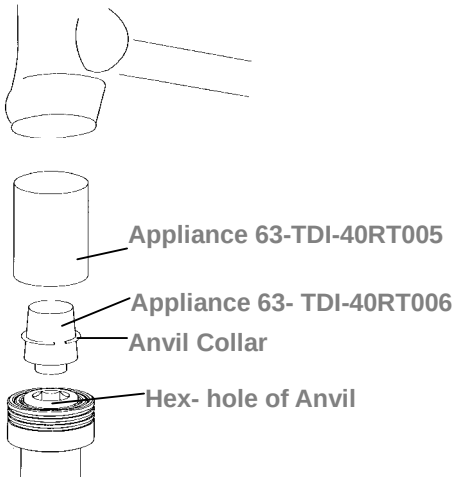


Fig. 116

- **HOUSING AND MOTOR SET DISASSEMBLY:**

1.0 Cylinder Unit Disassembly:

1.1 Fix the tool by a vise. Place the appliance (see Chart 17) on the lock nut of the cylinder and turn to loosen the lock nut out of cylinder in clockwise direction.

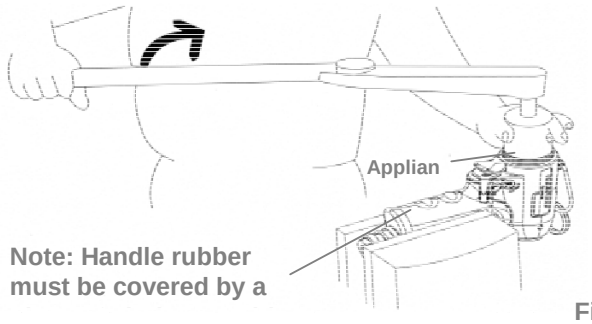
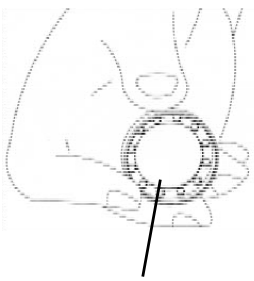


Fig. 117



Lock nut of Cylinder

Appliance No.	Apply to
63-TDI-40RT004	FLEXS-40P, FLEXS-50P, FLEXS-60P, FLEXS-30PX ,FLEXS-40PX , FLEXS-50PX , FLEXS-60PX
63-TDI-90RT003	FLEXS-70P, FLEXS-90P
63-TDI-100RT003	FLEXS-100P
63-TDI-130RT003	FLEXS-130P
63-TDI-150RT003	FLEXS-150P

Chart 17

1.2 Fix the housing in an opposite position. Use the appliance to loosen the lock nut of rear plate of cylinder in counter clockwise direction.

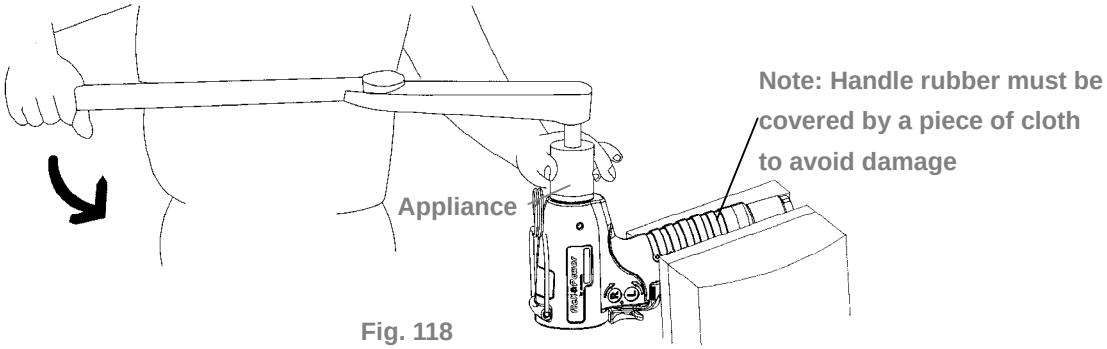


Fig. 118

Appliance No.	Apply to
63-TDI-40RT003	FLEXS-40P, FLEXS-50P, FLEXS-60P, FLEXS-30PX , FLEXS-40PX , FLEXS-50PX , FLEXS-60PX
63-TDI-100RT002	FLEXS-70P, FLEXS-90P、FLEXS-100P
63-TDI-130RT002	FLEXS-130P
63-TDI-150RT002	FLEXS-150P

Chart 18

1.3 Loosen the screw by a wrench.

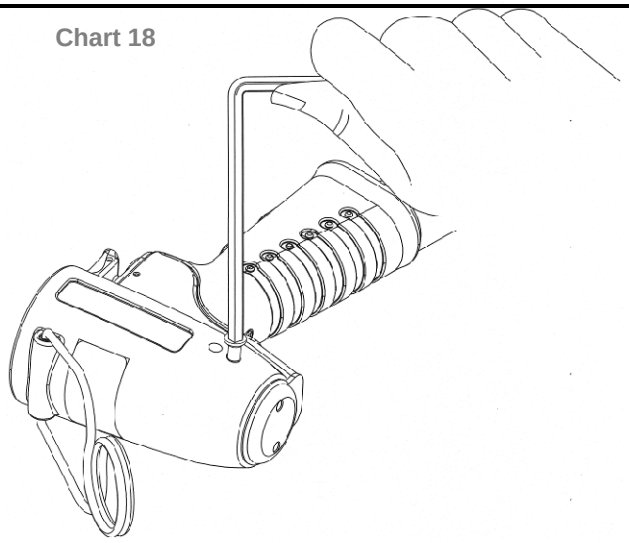


Fig.119

1.4 Detach the seat, the valve, the spring, the steel ball and the valve seat from the motor housing.

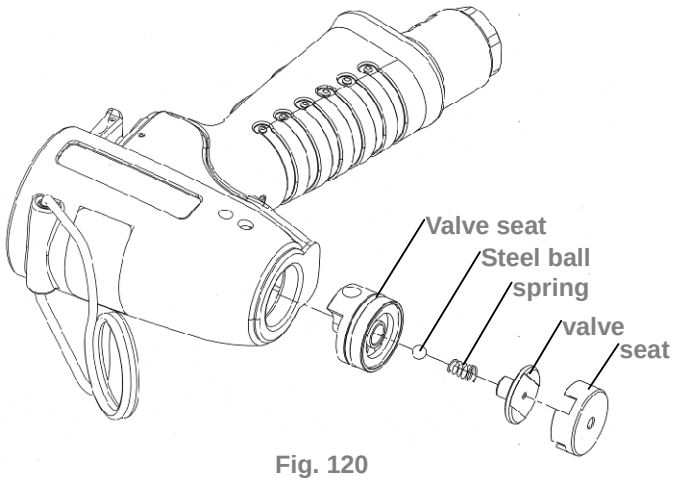


Fig. 120

1.5 Take a piece of cloth and lay it on a Chart before disassembly. Hold the housing and tap slightly with a plastic stick to push the cylinder unit out.

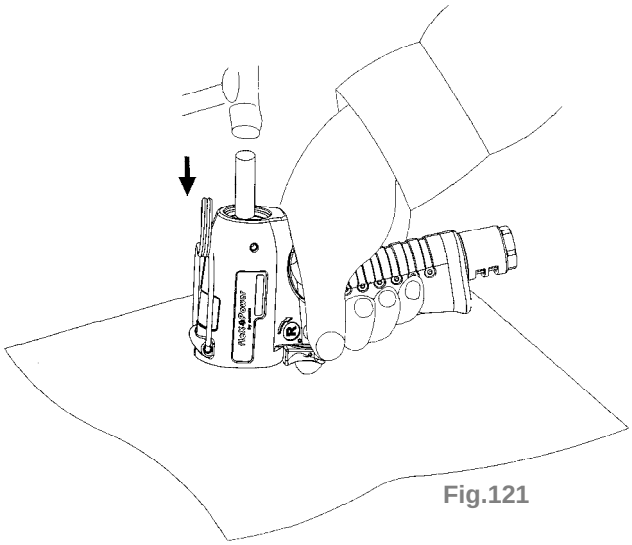


Fig.121

1.6 Parts of Motor Set:

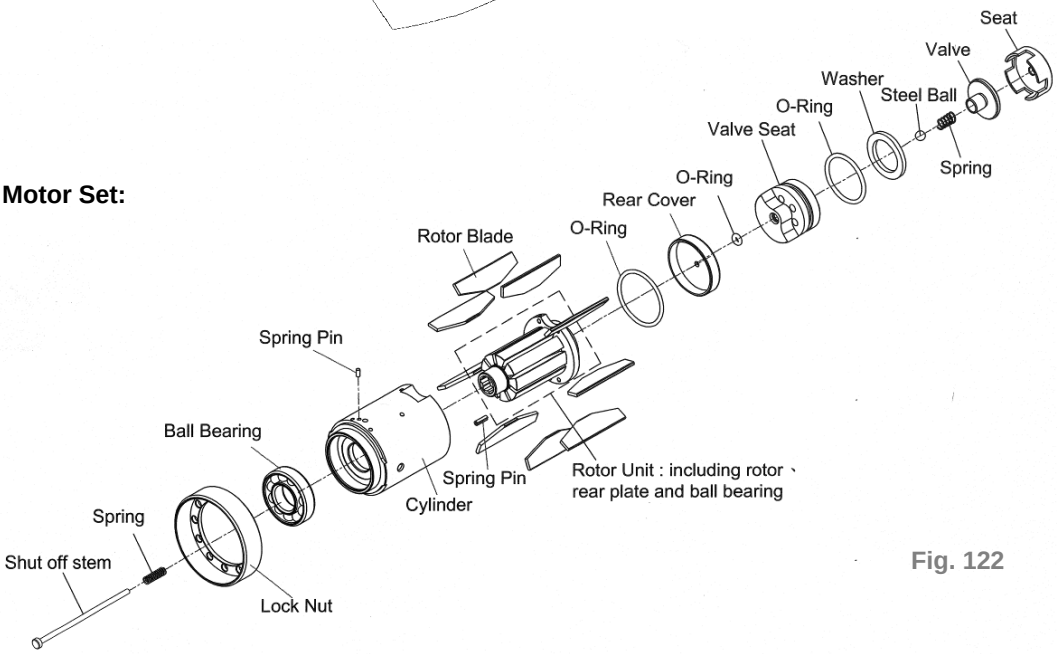


Fig. 122

The rotor and the rear end plate must be press fit. The clearance of the two parts must be in between 0.01~ 0.02 mm. It would not be easy to assemble the two parts by repair centers in general. Therefore, as there is a need of repair on the parts of the rotor, the rear end plate, and the ball bearing, we strongly suggest replacing a complete ROTOR UNIT, which is including the rotor, the rear plate, and the ball bearing. The rotor unit would be full assembled and well-measured before delivery.

2.0 Air Inlet Disassembly:

Take the air inlet unit apart from the end of the housing. The parts of O-ring, Muffler, Exhaust deflector are separated by each other.

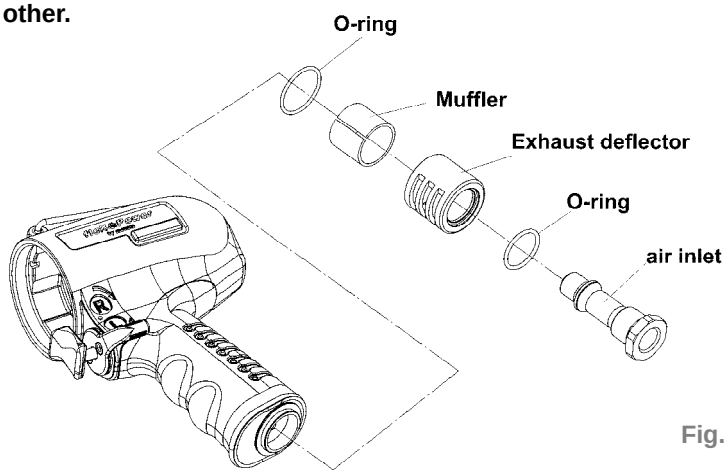


Fig. 123

3.0 Trigger Set Disassembly:

Remove the pin to take apart the valve sleeve set. All the parts are disassembled as the below drawing showed.

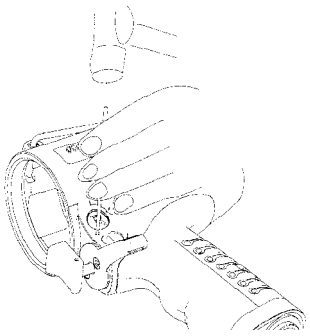
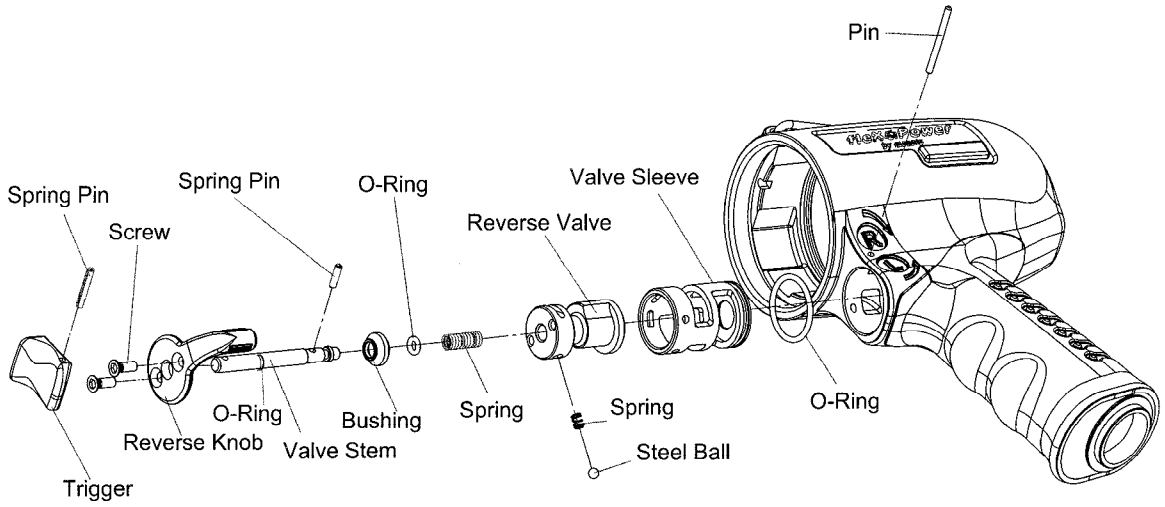


Fig. 124



- **HOUSING AND MOTOR SET ASSEMBLY:**

1.0 Housing and Air Inlet Assembly:

Install and tighten the parts of air inlet one by one and orderly. (NOTE: Apply the Loctite® on the threads of air inlet before assembly)

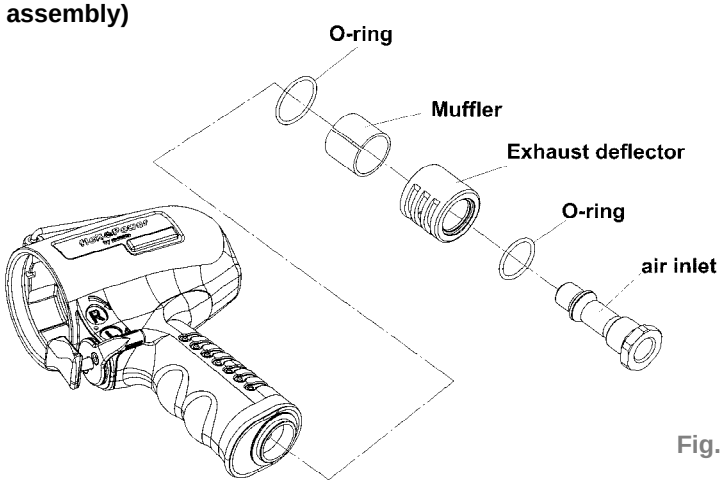


Fig. 125

2.0 Housing and Trigger Set Assembly:

Install the parts of the trigger set orderly (see Fig. 126 drawing for reference). Then, Insert the pin to fix all the parts. And, install the hanger to complete the assembly.

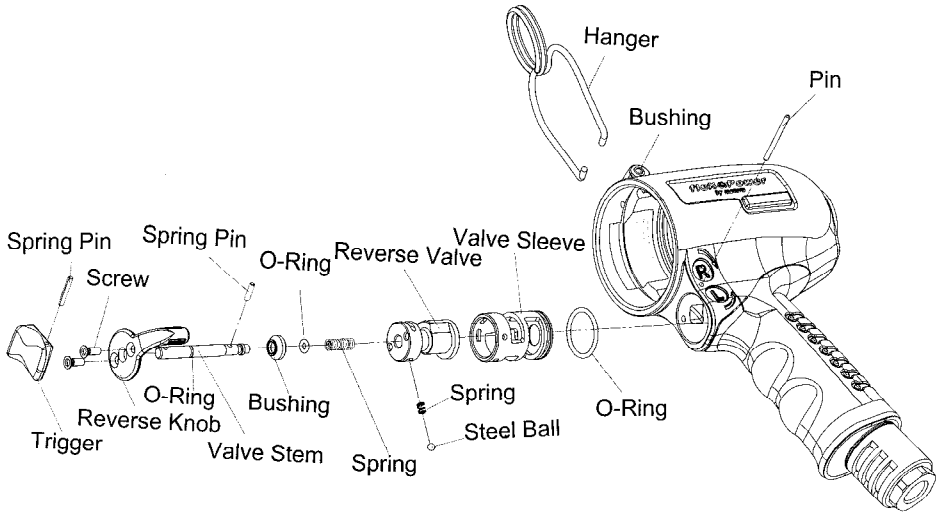


Fig. 126

3.0 Cylinder Unit Assembly

3.1 Place the rotor blades into the rotor. Insert the spring pin A and B into the cylinder. Make sure the pins aim at the pin holes when putting the cylinder down.

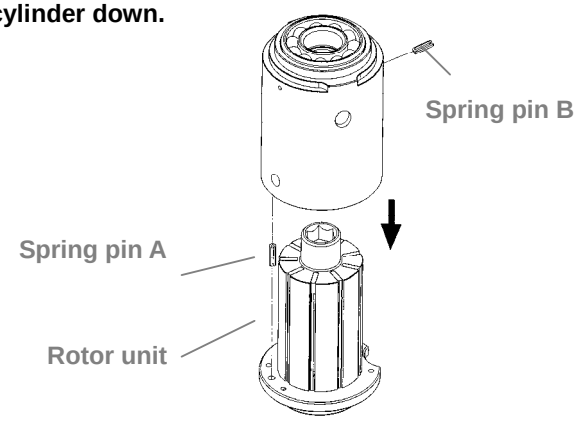


Fig.127

3.2 Install the O-ring and the rear cover to the rear plate. The motor set assembly is complete.

Fig. 128

4.0 <u>Housing and Motor Set Assembly</u>

Place two O-rings into the housing, then the motor set. Be sure the direction is correct when putting the motor set in, i.e. the pin on the side cylinder must aim at the hole to fix position as Fig. 129 showed.

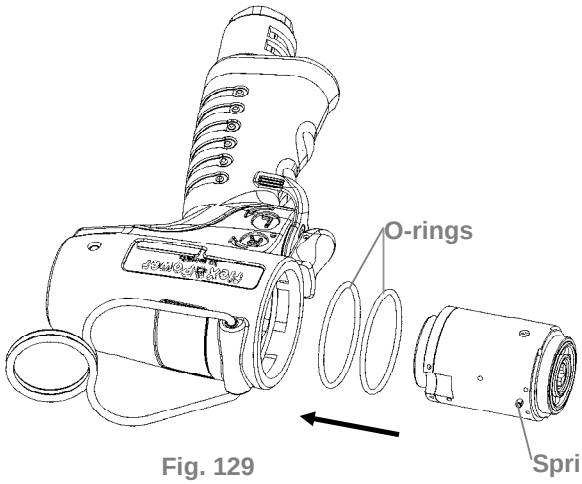


Fig. 129

5.0 <u>Shut-Off Valve Unit Assembly</u>

5.1 Place the three O-rings and the washer on the valve seat.

5.2 Place the assembled valve seat into the housing, making sure the hole on the side of valve seat aims at the hole on the side of the motor housing and the two holes should be at the same position in order to be fixed when the screw tighten in.

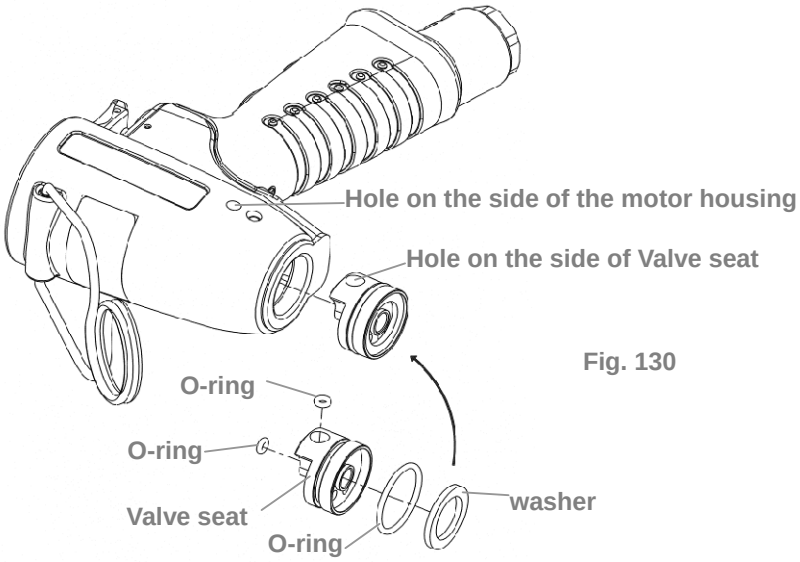


Fig. 130

5.3 Install the steel ball, the spring, the valve and the seat into the motor housing. Then, place the two O-rings on the lock nut of the rear end plate and tighten it into the motor housing.

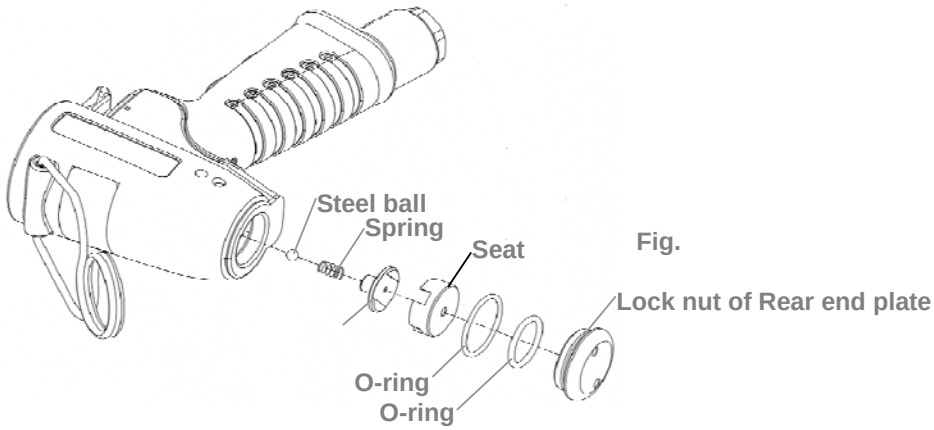
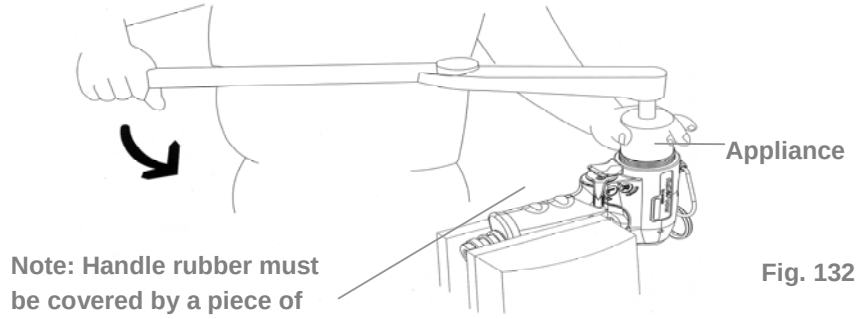


Fig.

6.0 <u>Housing and Lock Nut of Cylinder Assembly</u>

Fix the tool by a vise. Place the lock nut of the cylinder nut and tighten by the appliance in counter clockwise direction. Assembly is complete. See the Chart 19 and 20 in reference to appliance use and tighten torque.



Note: Handle rubber must be covered by a piece of cloth to avoid damage

Fig. 132

Chart 19

Appliance No.	Apply to
63-TDI-40RT004	FLEXS-40P, FLEXS-50P, FLEXS-60P, FLEX-30PX ,FLEXS-40PX ,FLEXS-50PX , FLEXS-60PX
63-TDI-90RT003	FLEXS-70P, FLEXS-90P
63-TDI-100RT003	FLEXS-100P
63-TDI-130RT003	FLEXS-130P
63-TDI-150RT003	FLEXS-150P

Chart 20

Model No.	Tighten torque
FLEXS-40P	40 N.M
FLEXS-50P	40 N.M
FLEXS-60P	40 N.M
FLEXS-70P	60 N.M
FLEXS-90P	60 N.M
FLEXS-100P	60 N.M
FLEXS-130P	60 N.M
FLEXS-150P	60 N.M.
FLEX-30PX	40 N.M
FLEXS-40PX	40 N.M
FLEXS-50PX	40 N.M
FLEXS-60PX	40 N.M

7.0 Tighten the screw on the housing

Before tightening the screw, make sure the hole of the housing should be at the same position where the hole of the seat at in order to assure the screw can tighten into the housing and the seat properly. Finally, insert the shut off stem with the spring sleeved into the center of the rotor. Assembly is complete.
Note: Loctite® needed when tighten the screw.

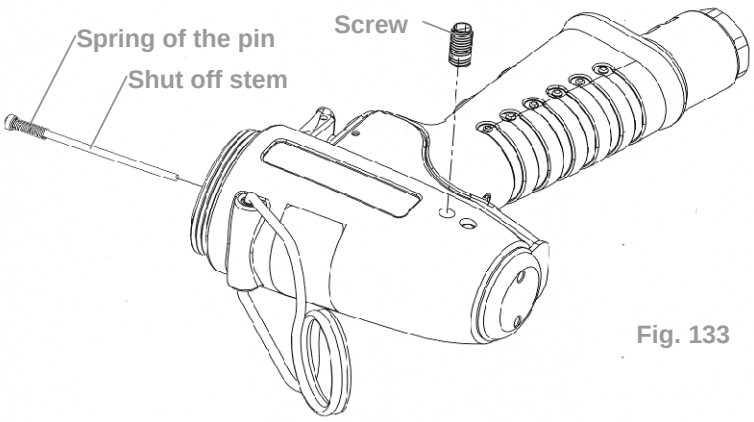


Fig. 133

After all the assembly is complete, test to make sure the anvil rotates freely, then connect the air hose and test the torque.

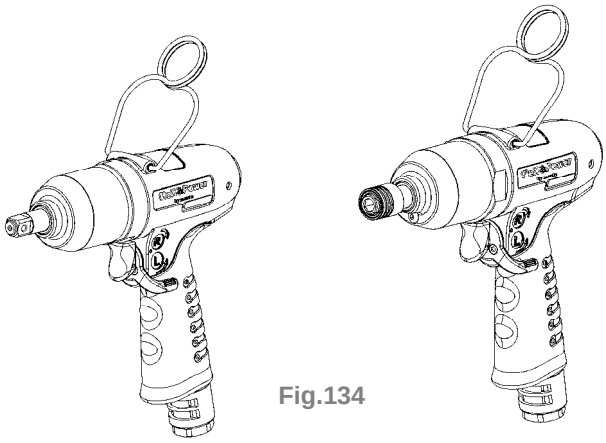


Fig.134

For more specific information or assistance for your **FLEX POWER TOOLS** , please contact your local Sales Engineer or contact any of our Serivce Centers

Trouble Shooting

Trouble	Cause	Solution
No Shut-off occurs	Overfill oil or missing oil in the pulse unit	Draw or add the amount of oil needed.
	Push rod or spring worn out	Replace the push rod and spring.
	Low Air pressure or incorrect hose size and air fittings	Adjust desired air pressure when the tool is running freely. Select the correct hose size and the air fittings, according to the tool model.
	Missing Cap (rear plate)	Replace the parts.
	Oil and/or O-rings broke down	Change the oil O-rings if worn out or bad condition.
Premature Shut-off or uncompleted rundown	Excess of oil in the pulse unit	Draw the excess of oil from the pulse unit.
	Torque setting	Adjust the target torque as recommended.
	Extensions or extra length sockets	Use sleeve drive sockets for extension or different length need.
	Join characteristic	Use a bigger model or a non-shut off tool, if the joint is soft or there is a prevailing torque.
Inconsistence torque output or low Torque	Low air pressure or fluctuates	Adjust desired air pressure when the tool is running freely.
	Lack of CFM on the air motor	Check the air compressor capacity.
	Dry blades of the air motor	Lubricate the air motor and recommended to add two or three drops per week.
	Oil and/or O-rings broke down	Change the oil O-rings if are worn out or bad conditions
Low RPM's	Low air pressure or fluctuates	Adjust desired air pressure when the tool is running freely.
	Dry blades of the air motor	Lubricate the air motor and recommended to add two or three drops per week.

Service Centers

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