ACCESSORY

P□□□A (P-UNIT)

OPERATION MANUAL

AMADA®

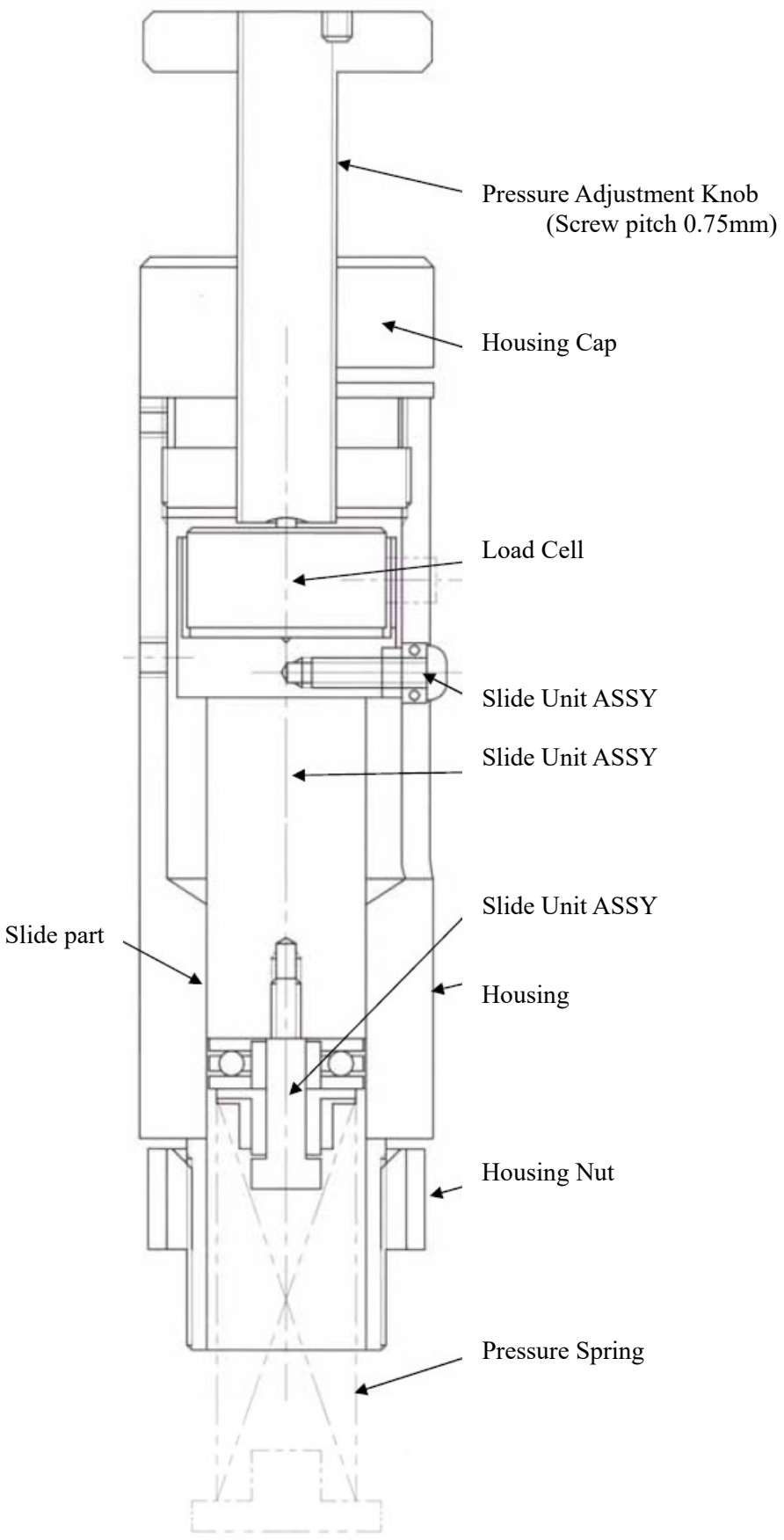
Z03M0899E-06

Thank you for purchasing our ACCESSORY P□□□A (P-UNIT).

- This operation manual explains its method of operation and precautions for use.
- Before using, read this operation manual carefully; after reading, save it in a proper place where you can easily access.

CONTENTS

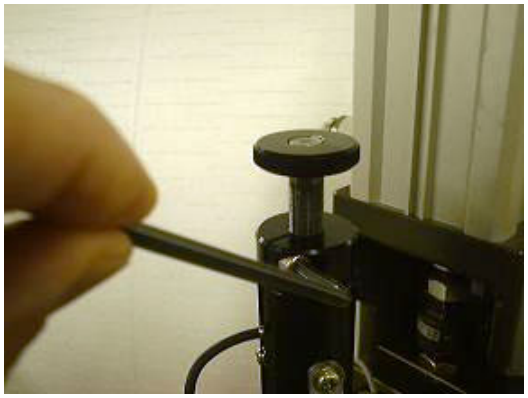
1. NAME OF EACH PART



2. ADJUST PRESSURE

The tool needed: Hexagonal wrench (4mm)

1) Move the weld head to the position of where a pressure is applied onto an application, and loosen the hexagonal bolt for the pressure adjustment knob using a hexagonal wrench. (Fig. 1)

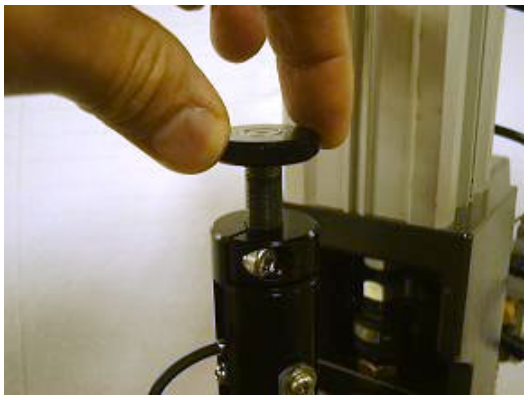


(Fig. 1)

NOTE:

- It is better not to loosen the bolt too much.
- In case that a pressure that is over the maximum is applied onto the pressure spring when moving the weld head to the position, loosen the pressure adjustment knob to make the pressure less than the maximum before moving.

2) Turn the pressure adjustment knob to adjust a pressure and fasten the hexagonal bolt to fix. (Fig. 2) After fixing it, check the pressure.

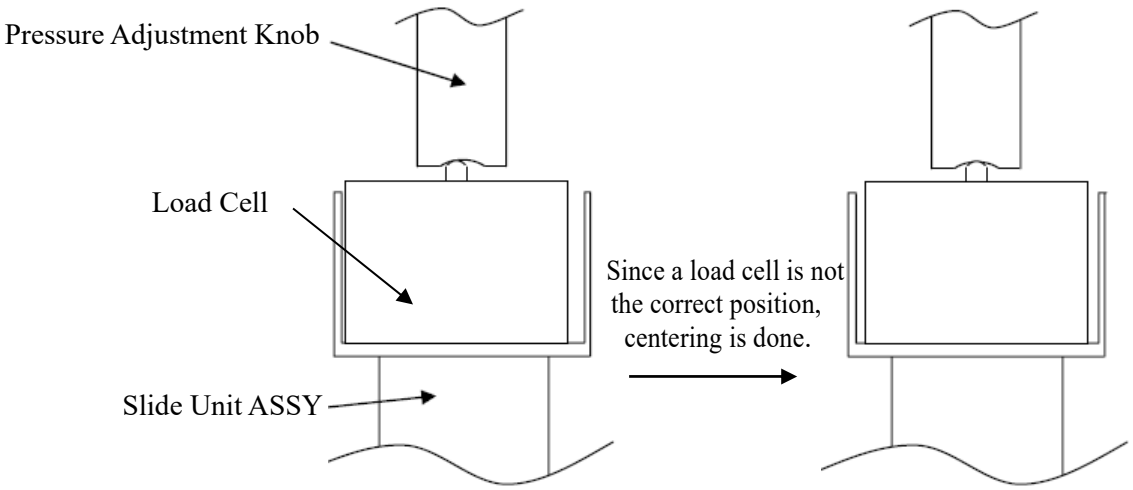


(Fig. 2)

NOTE:

- Do not fasten the hexagonal bolt too tight. Fasten it only to fix the pressure adjustment knob.
- Do not set the pressure over the maximum pressure of the spring.
- The load cell is not fixed onto the slide unit ASSY. (Fig. 3)

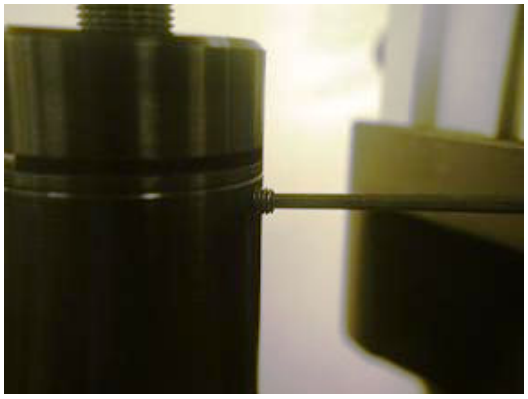
Fig. 3



3. REPLACE PRESSURE SPRING

The tools needed: Hexagonal wrench 1.5mm and 4mm

1) Loosen the set screw for locking the housing cap using a hexagonal wrench (1.5mm). (Fig. 1)



(Fig. 1)

NOTE:

- Loosen the set screw as it protrudes over 4 pitches from the housing. (It is okay to take out.)

2) Loosen the hexagonal bolt for locking the pressure adjustment knob using a hexagonal wrench (4mm) and loosen the pressure adjustment knob to less than 50N.
Fasten the hexagonal bolt lightly like Fig. 2, and turn a hexagonal wrench counterclockwise to take off the housing cap. (Fig. 2-4)

(Fig. 2)

NOTE:

- Make sure that the set screw at 1) is loosened enough to prevent the screw of the housing cap from being damaged.

(Fig. 3)

(Fig. 4)

3) Take off the load cell. (Fig. 5)

NOTE:

- Do not use tools like radio pliers.
- Make sure not to damage the load cell.

(Fig. 5)

4) Take off the slide unit ASSY. (Fig. 6-8)

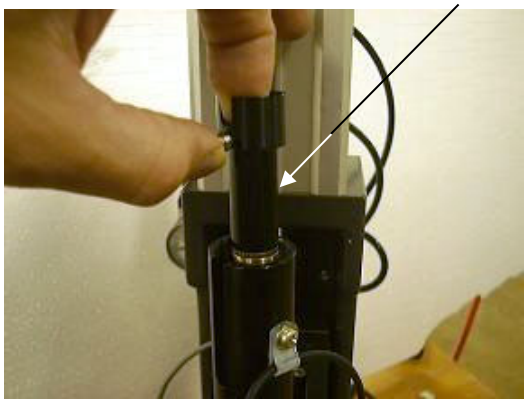
NOTE:

- Do not use tools like radio pliers.
- Make sure not to damage the slide unit ASSY. Especially, be careful with slide part.

(Fig. 6)

(Fig. 7)

Slide Part



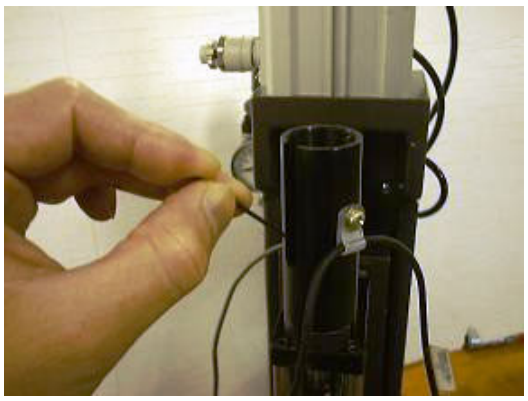
(Fig. 8)

5) Take off the pressure spring using
a hexagonal wrench (1.5mm). (Fig. 9 and 10)

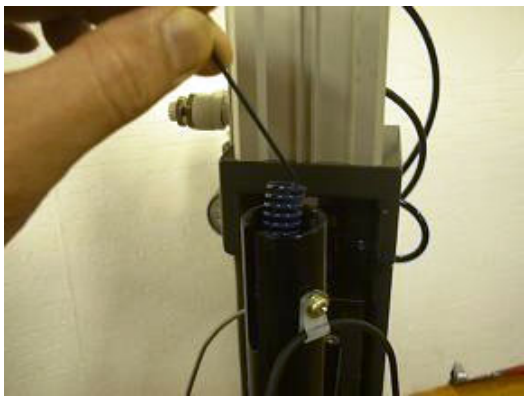
NOTE:

- Make sure not to damage the slide part
in the housing.

(Fig. 9)



(Fig. 10)



(Fig. 11)

6) Place the new spring.

NOTE:

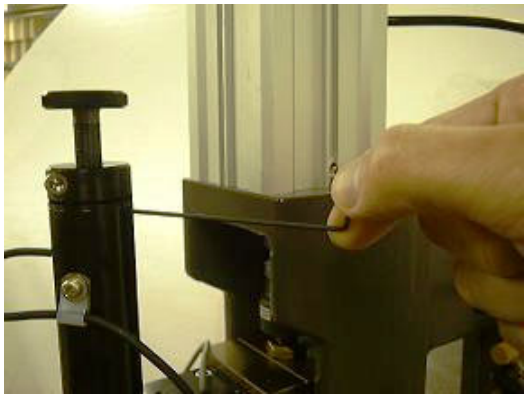
- Use only the springs we recommend.
- In case of using a spring with less 16k,
use a spring table of φ9.5.

(Fig. 12)

7) Install the slide unit ASSY, the load cell, and the housing cap in the reverse order of 1) to 6). (Fig. 14)

NOTE:

- Do not use tools like radio pliers except for fastening each screw.
- After placing the slide unit ASSY into the housing, press it with a finger to confirm whether it moves smoothly.
In case of using a spring table of φ9.5, make sure that it does not come off.
- Do not install the load cell up side down.
- Do not use grease or lubricant.
- Wipe off with alcohol when the slide part is not clean.
- Do not fasten the housing cap too tight.
It is fastened using the set screw.
- Fasten the housing cap and the set screw by holding short side of a hexagonal wrench. (Fig. 13) Do not fasten too tight.



(Fig. 13)

(Fig. 14)

4. INSTALL THE P-UNIT

The tools needed: Hexagonal wrench 1.5mm and 4mm, Driver No.2, and Hook-shaped spanner wrench.

4-1. How to Take Off:

1) Take off the housing cap, the load cell, the slide unit ASSY, the pressure spring, and the nylon clip. (Fig. 1 and 2)

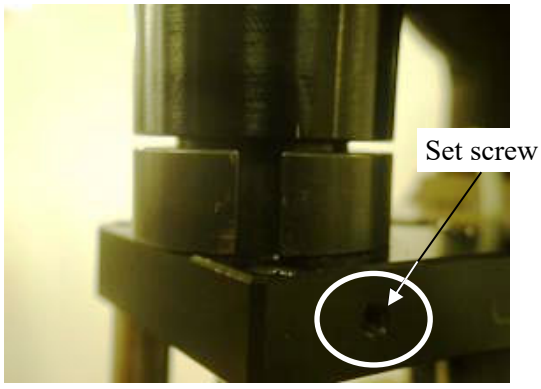
(Fig. 1)

(Fig. 2)

2) Remove the set screw at the side of the weld head.

NOTE:

- When the screw is jammed during disassembly, do not remove it forcibly and contact us.



(Fig. 3)

3) Loosen the housing nut using a hook-shaped spanner wrench to take off the housing.

NOTE:

- Be careful not to catch fingers in it.
- Hold a hook of a spanner wrench firmly to fit to the nut when loosening the nut. (Fig. 4)

(Fig. 4)

4-2. How to Install:

1) Attach the housing nut to the housing. (Fig. 1 and 2)
Face the side of the housing nut that Fig. 3 shows to the housing and attach it.

NOTE:

- Do not use any tool to attach the nut.
- The nut does not fit properly to the housing when the side of the nut that Fig. 4 shows faces to the housing.

(Fig. 1)

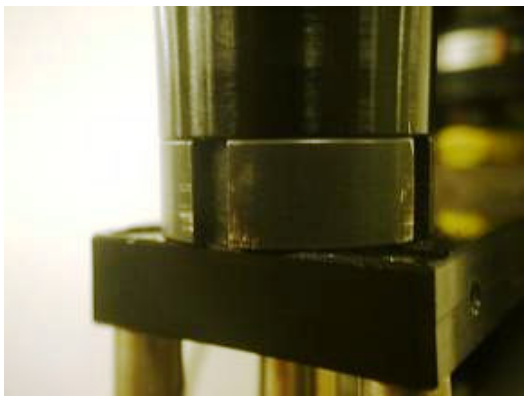
(Fig. 2)

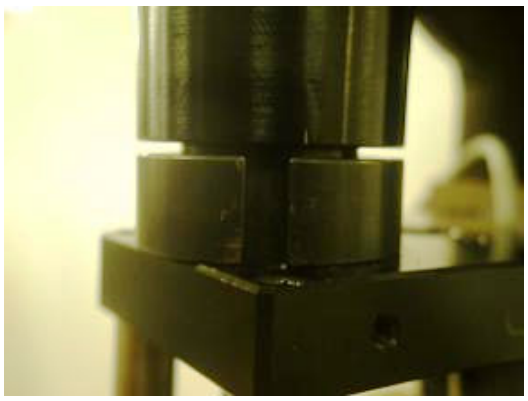
(Fig. 3)

(Fig. 4)

2) Install the housing to the weld head.
(Fig. 5)
Adjust the direction of the housing after installed.

NOTE:
- Do not let the housing make a whole turn when adjusting the direction of it. (Fig. 6)

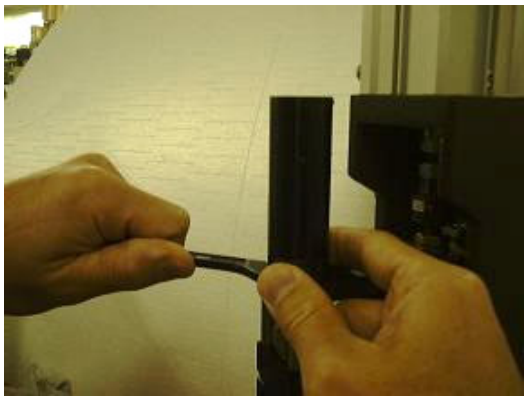

(Fig. 5)


(Fig. 6)

3) Fasten the housing nut using a hook-shaped spanner wrench to fix the housing.

NOTE:
- Be careful not to catch fingers in it.
- Hold a hook of a spanner wrench firmly to fit to the nut when loosening the nut. (Fig. 7)

4) Fix it with the set screw at the side of the weld head.


(Fig. 7)

5) Install the pressure spring, the slide unit ASSY, and the load cell.

NOTE:
- Attach the nylon clip for fixing the cable to the load cell using a machine screw of M4x6 and a flat washer. Make sure that the machine screw does not protrude from the inside wall of the housing.


(Fig. 8)

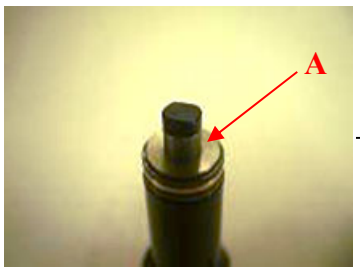
4-3. φ9.5 Spring Table (Fig. 1)

1) In case of using a pressure spring of 16k or less, the φ9.5 spring table must be attached to the slide unit ASSY.
In case of using a pressure spring of over 16k, the φ9.5 needs to be taken off.

(Fig. 1)

2) How to attach the φ9.5 spring table:

- Paste grease with low viscosity a little on the A area in Fig. 2. If putting grease too much, wipe it off.
- Attach the φ9.5 spring table to the slide unit ASSY. (Fig. 2-4)



(Fig. 2)

(Fig. 3)

(Fig. 4)

5. OPTION

- Hook-shaped spanner wrench (Fig. 5)

(Fig. 5)

6. CAUTION

1) Basically, regular maintenance work is not necessary for this unit.
In case of using the unit at the dusty environment, clean the inside of the housing regularly.
Wipe dust and oil off especially the slide part of the unit with an alcohol-moistened cloth.

2) Use the designated springs.

3) Set the moving speed of the weld head with the P-unit loaded at the followings:

20N: slower than 50mm/s
50N: slower than 80mm/s
200N: slower than 200mm/s
500N: slower than 200mm/s

The impact that occurs when the application comes back to the starting point is stronger than the one that occurs when pressuring is stopped.
Consult us if you would like to use it at faster speed than the recommended speed.

4) The load cell of 50N or less may be damaged if transported by being attached to the P-unit.
When transporting the load cell, be sure to remove it from the P-unit and pack it separately.

NOTE: To the customers who have replaced an old version of P-unit with a new version:
Comparing with the old version of P-unit; P□□□, the new version of P-unit; P□□□A, provides lower friction of the inside parts. Please make sure of following the instructions below.

a. The moving speed of the weld head must be set as mentioned above.
b. Set the squeeze time long. The squeeze time depends on each pressure set value, pressure spring, loaded head speed, and application. Examine proper squeeze time while actually operating. Unless the squeeze time is set long enough, the measuring value won't be stable.