



CO₂ /MAG /MIG

Wire Feeder with Encoder (4-Roll)

Instruction Manual	
= Safety and Operation =	Instruction Manual No.
Wire Feeder (L7437 /L7438)	1L7437-E-1

First thoroughly read this manual to operate the machine correctly.

- Installation, maintenance, and repair of this wire feeder should be made by qualified persons or persons who fully understand welding machines for extra safety.
- Operation of this wire feeder should be made by persons who have knowledge and technical skill to understand the contents of this manual well and handle the machine safely for extra safety.
- Regarding safety education, utilize courses and classes held by head /branch offices of the Welding Society /Association and the related societies /associations and qualifying examinations for welding experts /consultant engineers.
- After thoroughly reading this manual first, store it with the warranty in the place where the persons concerned can read at any time. Read it again as occasion demands.
- If incomprehensible, contact our offices. For servicing, contact our local distributor or sales representatives in your country.
 - Our addresses and telephone numbers are listed in the back cover of this Instruction Manual.


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Note on Safety


1. Note on Safety

- Before operating, thoroughly read this instruction manual, and operate this unit correctly.
- Caution note mentioned in this manual is to use the equipment safely and prevent danger and damage from occurring.
- This wire feeding unit is designed and manufactured upon due consideration of safety. However, be sure to follow the instructions and cautions described in this manual when using it. Otherwise, there may occur an accident resulting in death or a serious injury.
- Mishandling of equipment may cause various levels of accidents and damage. In order to draw attention to mishandling, three levels of safety alert symbols; "DANGER", "WARNING" and "CAUTION" are adopted throughout this manual. See below for the details.

 **DANGER** : Mishandling may cause death or a serious injury to an operator. Also, the level of urgency to alert is high when a danger occurs. Limited situation of great urgency.

 **WARNING** : Mishandling may cause death or a serious injury to an operator.

 **CAUTION** : Mishandling may cause a medium or slight injury to an operator or property damage.

Even if the matters mentioned in  **CAUTION** may occasionally cause a serious injury depending on a condition. Be sure to comply with the notes and instructions.

"Serious injury", "Medium or slight injury" and "Property damage" mentioned above give the meanings as follows.

Serious injury : Injury that leaves sequelae caused by a loss of eyesight, injury, burn (high/low temperature), electric shock, bone fracture, poisoning etc.,
Or, injury that requires hospitalization or long-term treatment as an outpatient.

Medium or slight injury : Damage including injury, burn (high/low temperature), electric shock and others that does not require either hospitalization or long-term treatment.

Property damage : Damage to property and direct/indirect damage to equipment.

Caution Note on Safety

2. Requirements on Safety

- 2.1 Before starting welding operation, thoroughly read and understand the related safety rules and caution note below in addition to the instruction manual for welding power supply.
Be sure to follow the instructions.



WARNING

- To avoid a fatal physical accident, follow the notes below.

- 1) This wire feeding unit is designed and manufactured upon due consideration of safety, however be sure to follow the notes described in this instruction manual. If operating this unit without following the instructions, a fatal accident such as death or a serious injury may occur.
- 2) For selecting the installation area, handling/storing/piping high pressure gas, storing the welded manufactures and disposal of waste, comply with rules and regulations in your company.
- 3) Keep away from the welding power supply and the welding operation area.
- 4) A person with a pacemaker must not approach the welding power supply turned ON and the welding operation area without getting the permission by his/her doctor. The welding power supply turned ON generates the magnetic field, which adversely affects on a pacemaker.
- 5) To ensure safety, only the qualified personnel or those who fully understand this wire feeding unit must perform the maintenance and repair work of the unit. (※1)
- 6) To ensure safety, only the personnel who fully understand this instruction manual and have sufficient knowledge and skill must operate this wire feeding unit. (※1)
- 7) Do not use this wire feeding unit for other than welding.

- 2.2 To avoid the electric shock hazard, follow the note below.



WARNING

- Do not touch the live electric parts.


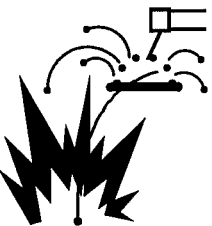


Touching live electric parts may cause a fatal shock or a severe burn.

- 1) Only the qualified personnel must perform the grounding work for the welding power supply, workpiece and jigs electrically connected with workpiece according to the regulations (Technical Standard of Electrical Facilities).
- 2) Do not touch live electric parts.
- 3) Be sure to always wear a dry pair of insulating gloves and fatigue uniform. Never wear torn or wet gloves and fatigue uniform.
- 4) Before performing installation, inspection, maintenance and other works, be sure to turn off all the input-side power. Even if the input-side power is OFF, a capacitor and other components may be still electrically charged. To start operating, therefore, wait for a few minutes after the power was turned OFF until no charged voltage is detected.
- 5) Do not use connection cables with insufficient capacity, with damage cables or with naked conductors.
- 6) Be sure to secure the cable connection and insulate them to prevent personnel from easily touching those parts.
- 7) Do not use the welding power supply without its case or cover.
- 8) Before starting operation, secure a firm footing. Also, do not perform operation at unstable footing or at higher place (2m or higher).
- 9) Carry out maintenance and inspection periodically, and repair the damaged parts before using the equipment.
- 10) Be sure to turn off the input-side power of equipment if not in use.



Caution Notes on Safety (continued)

2.3 To avoid a fire and explosion caused by the heated workpiece right after welding, spatter, slag or arc spark, and to avoid injury, follow the notes below.

 WARNING	<ul style="list-style-type: none"> ● Do not perform welding near inflammables or combustibles. ● Watch out for a fire and know where a fire extinguisher is placed. ● Never perform welding on flammable materials such as wood or cloth. ● Do not perform welding on workpiece that makes it an airproof container.
	<ul style="list-style-type: none"> ● Heated workpiece right after welding, spatter, slag and arc spark cause a fire. ● Improper cable connection or improper contact in the workpiece-side current circuit such as steel frames may cause an exothermic fire. ● An explosion may occur if generating arc on the container for flammables or combustibles such as gasoline. ● If welding on an airproof tank or pipe, they may burst. ● Heated workpiece right after welding, spatter, slag and arc spark cause a serious burn.

- 1) Do not perform welding near inflammables or combustibles.
- 2) To avoid getting a burn by the heated workpiece right after welding, spatter, slag and arc spark, an operator must wear a pair of flameproof leather gloves, a long-sleeve fatigue uniform, a leg cover, a flameproof leather apron and other protective clothes.
- 3) Always watch out for a fire and other danger.
- 4) Place a fire extinguisher near the welding work area. Also, each operator must fully know how to use.
- 5) Do not bring the heated workpiece or the jigs into contact with flammable materials such as wood or cloth. Otherwise, not only a fire may occur but you may also get a burn.
- 6) Do not bring the heated workpiece right after welding into contact with combustibles.
- 7) Keep inflammables and combustibles away from the welding work area to avoid spatters.
- 8) Never use inflammable gas near the welding work area.
- 9) Firmly secure the cable connection, and insulate them.
- 10) Connect the workpiece-side cable as nearer to the welding spot as possible.
- 11) Do not perform welding on gas-filled pipes, airproof tanks and pipes etc. because they may burst.
- 12) Do not perform welding on flammable materials such as wood or cloth.
- 13) To perform welding on ceiling, floor, wall etc., be sure to carefully check behind and clear away the combustibles and inflammables.

2.4 If you carelessly touch the rotating part, you may get entangled and injured. Be sure to follow the notes below.

 WARNING	<ul style="list-style-type: none"> ● Do not bring your hands, fingers, hair, clothes etc. close to the rotating part.
	<ul style="list-style-type: none"> ● Keep your hands, fingers, hair, clothes etc. away from the rotating part of wire feeding unit such as a feeding roll. You may get entangled and injured.

- 1) When using a welding power supply, be sure that its case and cover are fixed on.
- 2) When required to unfix the cover of welding power supply for maintenance, inspection and repair work, only the personnel who has taken the specified course and fully understands the welding power supply must perform the operation. During the operation, keep other people away from the work area by enclosing it.
- 3) Keep your hands, fingers, hair, clothes etc. away from the feeding roll on rotating.

Caution Notes on Safety (continued)

Reference

< PRINCIPAL SAFETY STANDARDS >

Arc welding equipment ? Installation and use, Technical Specification IEC 62081, from International Electrotechnical Commission

Safety in Welding and Cutting, ANSI Standard Z49.1, from American Welding Society.

Safety and Health Standards, OSHA 29 CFR 1910, from Superintendent of Documents, U.S. Government Printing Office.

Recommended Practices for Plasma Arc Cutting, American Welding Society Standard AWS C5.2, from American Welding Society.

Recommended Safe Practices for the Preparation for Welding and Cutting of Containers That Have Held Hazardous Substances, American Welding Society Standard AWS F4.1, from American Welding Society.

National Electrical Code, NFPA Standard 70, from National Fire Protection Association.

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1, from Compressed Gas Association.

Code for Safety in Welding and Cutting, CSA Standard W117.2, from Canadian Standards Association, Standards Sales.

Safe Practices For Occupation And Educational Eye And Face Protection, ANSI Standard Z87.1, from American National Standards Institute.




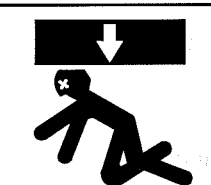
Cutting And Welding Processes, NFPA Standard 51B, from National Fire Protection Association.

Caution Notes on Safety (continued)

3. Transport and Installation


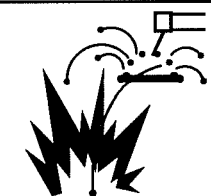

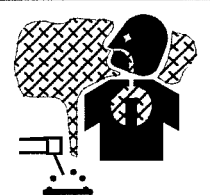
3.1 Transportation

To avoid an accident and damage to the wire feeding unit in transportation, observe the followings.

 WARNING	<ul style="list-style-type: none"> ● Do not touch live electrical parts.
	<ul style="list-style-type: none"> ● Before transporting and transferring the wire feeding unit, be sure to turn off the input power by switching in the switch box.
 WARNING	<ul style="list-style-type: none"> ● For transporting and hanging of this unit, follow the specified procedures. ● To fix the unit and other peripheral equipment, use the prescribed tightening torque.
	<ul style="list-style-type: none"> ● Falling objects harm personnel and equipment. ● Use the prescribed tightening torque when fixing the unit. Otherwise, a fatal physical injury may be caused because of turnover of the unit, flying or falling of the tool and some other reasons. ● For transporting the wire feeding unit by craning to high, be sure to unset the wire from the unit.

3.2 Installation

For installing the wire feeding unit, observe the following notes to protect operator's health from a fire, an explosion, fumes and gas caused or produced by welding performance.

 WARNING	<ul style="list-style-type: none"> ● Do not place the unit near inflammables. ● Watch out for a fire and know where a fire extinguisher is placed.
	<ul style="list-style-type: none"> ● Do not install the welding power supply near inflammables or flammable gas. ● Keep inflammables away from the welding area so that they will not be exposed to spatter. If not possible, cover them with the fireproof cover.
 WARNING	<ul style="list-style-type: none"> ● Do not breathe in fumes. ● Ventilate the area enough and wear a protection face guard and other protective equipment as needed.
	<ul style="list-style-type: none"> ● To avoid gas poisoning or asphyxia, use a respirator or adopt a ventilation system prescribed by the laws in your country. ● When performing welding in a tight space, be sure to ventilate the area enough or wear a respirator, and operate in control of the trained observer.

< Installation location >

- Install the wire feeding unit in a place meeting the following conditions.
 - Indoor place in which no direct sunlight, wind and weather is exposed, and with little moisture and dust
 - The ambient temperature is within the range of -10~40°C.
 - No wind is blown to the arc part.
 (Wind may cause a welding failure. Avoid a wind with a windshield or other items.)

Caution Notes on Safety (continued)

4. Connection



WARNING

- To avoid electric shock, be sure to turn off all the input powers by switching in the switch box before performing the connection work.



CAUTION

- Secure the cable connection firmly.

Thank you for purchasing our DAIHEN CO₂ /MAG /MIG welding wire feeder L-7437 and MIG welding wire feeder L-7438.

Before you use this product, read this instruction manual thoroughly for correct use.

- [Note]
1. The contents in this instruction manual are subject to change without notice.
 2. We have carefully created this instruction manual to avoid as many errors. Even if any errors are found in the contents, we are not responsible for any damage caused by them.
 3. No part of this instruction manual may be reproduced or stored in any form without the express written permission.

1. Specifications

1.1 L-7437

L-7437 is a wire feeder for a robot and used for CO₂ /MAG /MIG welding (with mild steel or stainless steel wire).

The specifications are shown in table 1. (Refer to Fig. 1 for outline drawing.)

Table 1 Specifications

Model	L-7437
Wire feeding reducer	L-6989
Welding process	CO ₂ /MAG welding, MIG welding
Rolling system	4-roll driving system
Applicable wire diameter (mm)	Fe, SUS:(ϕ 0.8), (ϕ 0.9), (ϕ 1.0), ϕ 1.2, (ϕ 1.4), (ϕ 1.6)
Wire feed rate	MAX 0.3m/s(18m/min)
Control method	Encoder feedback control

Note) Parts for steel wire (ϕ 1.2) are assembled into this wire feeding reducer.

The applicable wire diameter in () is for optional products.

1.2 L-7438

L-7438 is a wire feeder for a robot and used for MIG welding (with an aluminum wire).

The specifications are shown in table 2. (Refer to Fig. 2 for outline drawing.)

Table 2 Specifications

Model	L-7438
Wire feeding reducer	L-7159
Welding process	MIG welding process
Rolling system	4-roll driving system
Applicable wire diameter (mm)	Al:(ϕ 1.0), ϕ 1.2, (ϕ 1.6)
Wire feed rate	MAX 0.3m/s(18m/min)
Control method	Encoder feedback control

Note) Parts for aluminum wire (ϕ 1.0 - 1.2) are assembled into this wire feeding reducer.

The applicable wire diameter in () is for optional products.

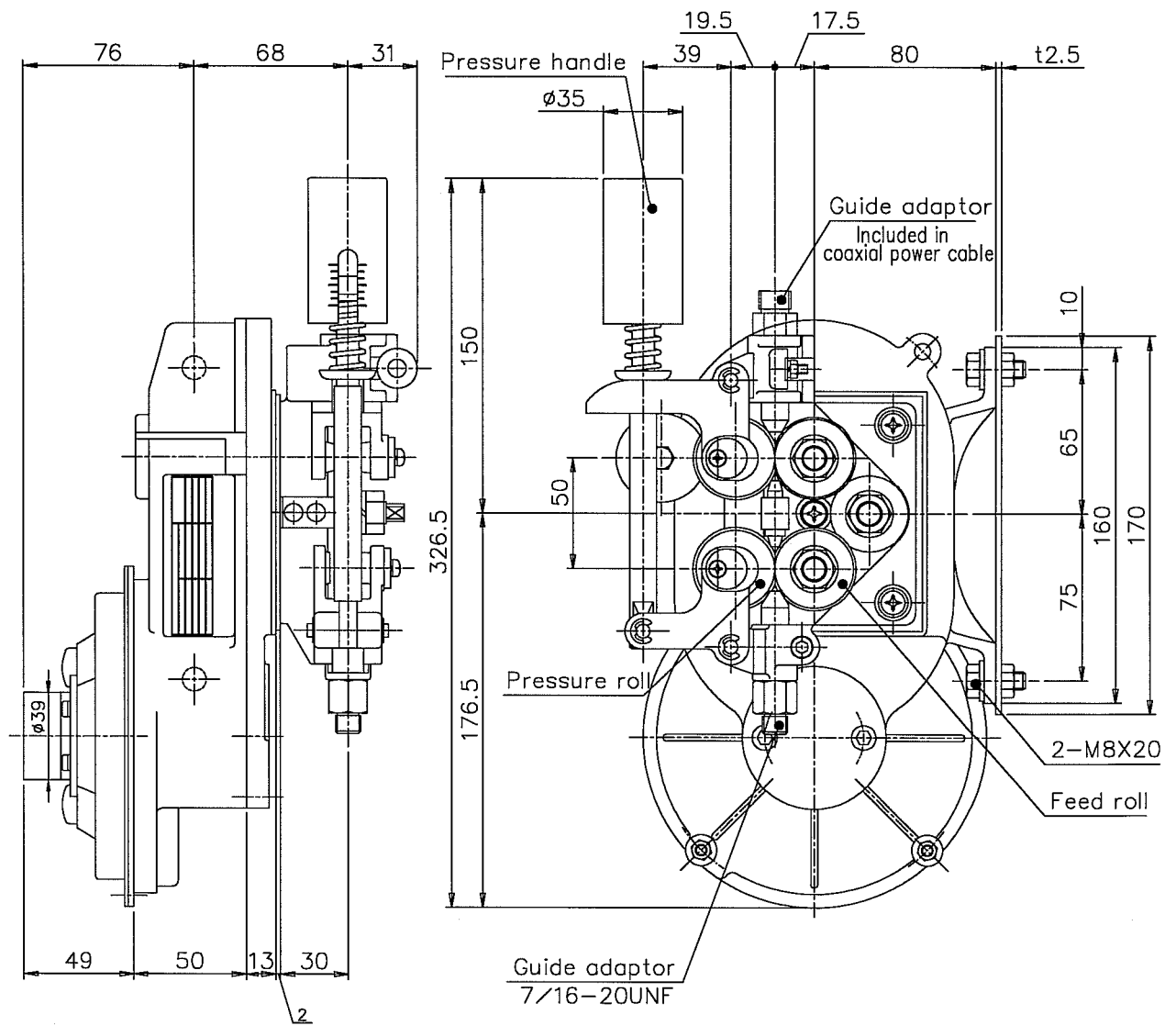
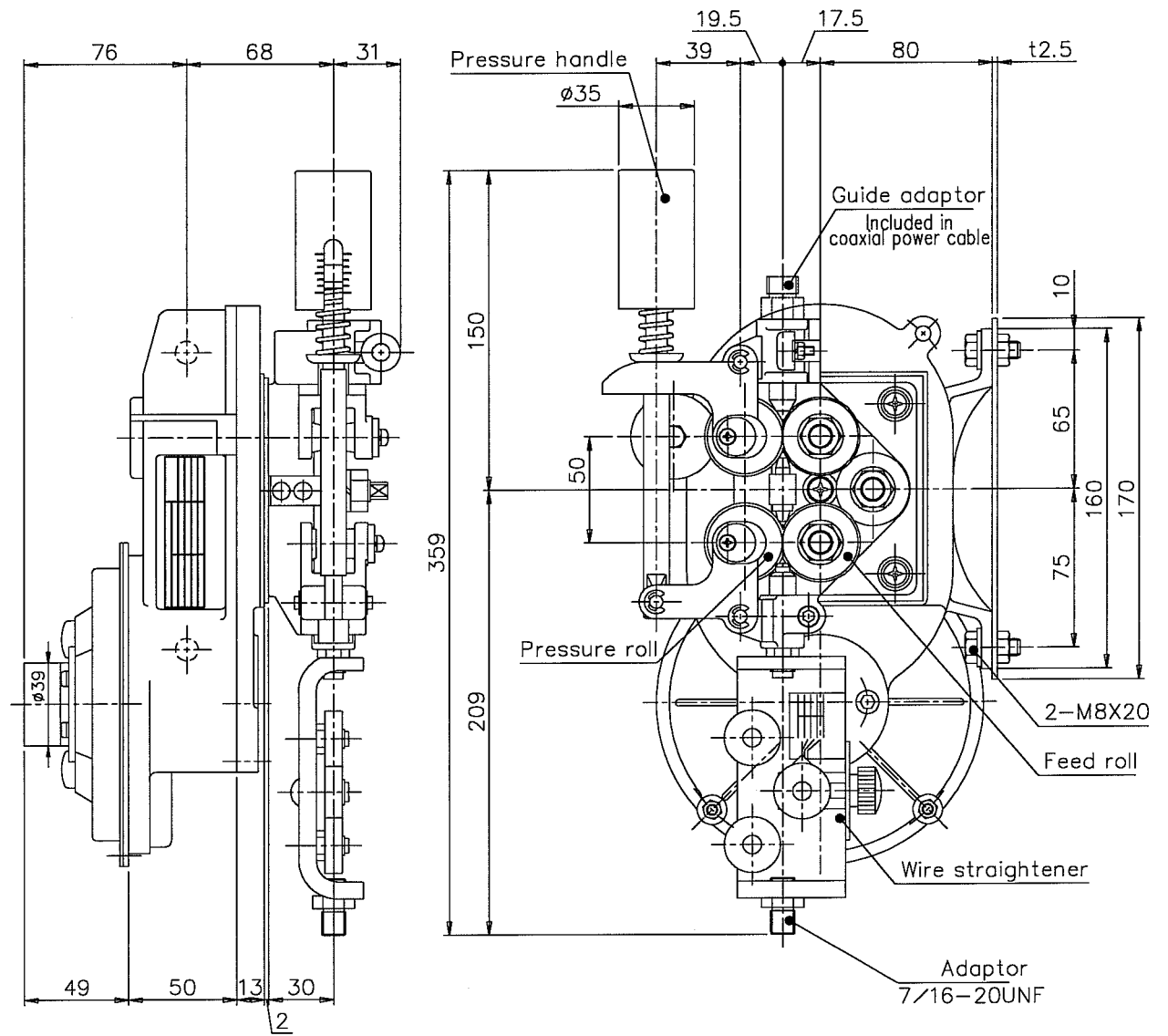


Fig. 1 Outline drawing of wire feeder L-7437

Unit: (mm)



Unit:(mm)

Fig. 2 Outline drawing of wire feeder L-7438 (equipped with wire straightener)

2. Mounting on Manipulator "Almega AX (EX) Series Robot"

2.1 Mounting on Almega AX (EX)-MV series

Mount the wire feeder on the shoulder of the manipulator.

Remove the shoulder cover. Mount the relay unit (L7437C) on the back face of the shoulder cover. Connect the other end of the voltage detection cable to the coaxial power cable. (Refer to the detailed drawing of section A.)

And confirm that the connectors have the same color. See the Chapter 8 titled "Electric Connection Drawing" for details.

In this wire feeder, no fixing bracket, solenoid valve, connector for shock sensor and warning lamp is provided.

Use the fixing bracket (L7386B: applicable to all manipulators) that is required for fixing the power cable. A solenoid valve, a connector for shock sensor, and a warning lamp (optional accessory) are assembled into the manipulator.

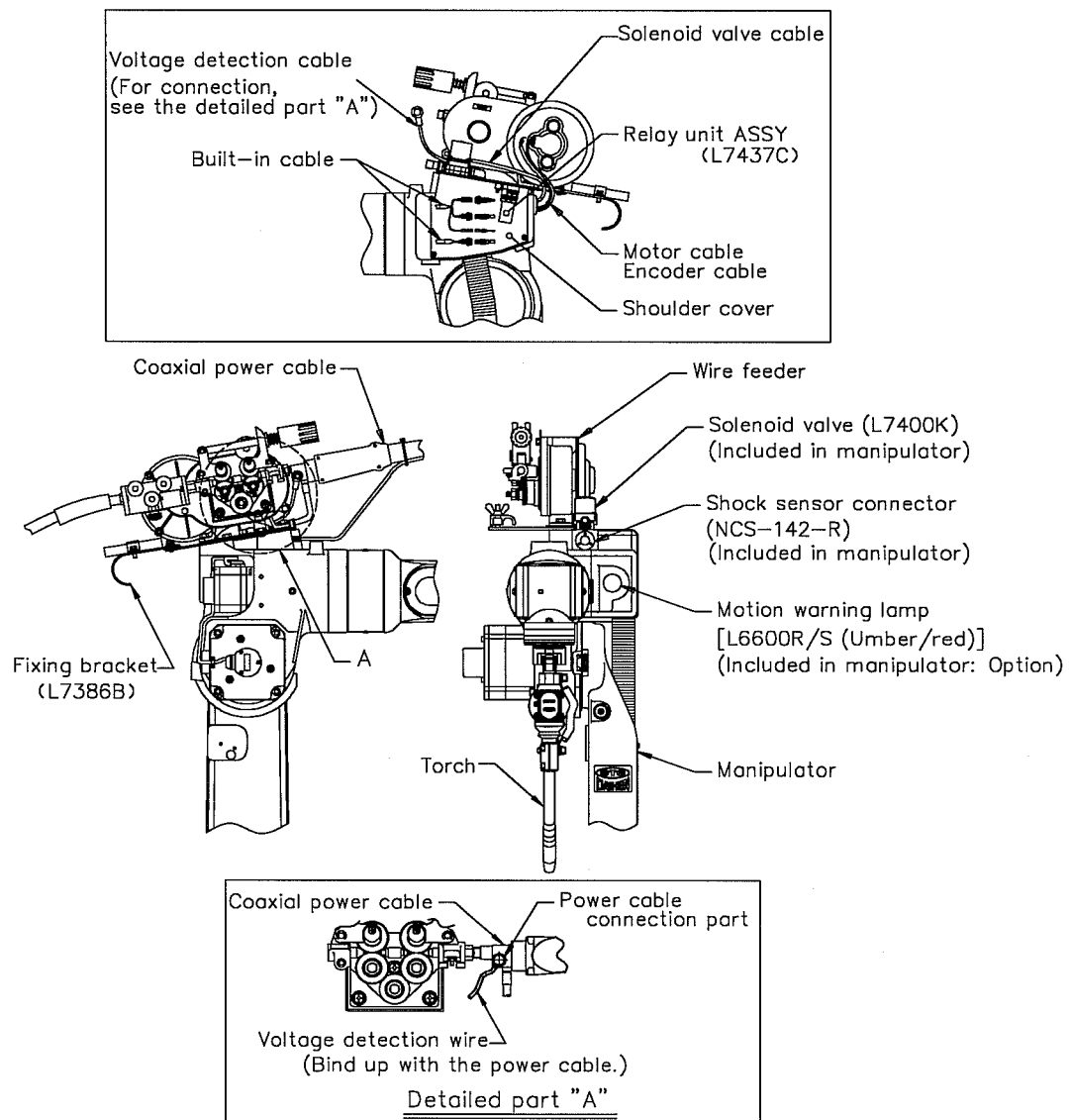


Fig. 3.1 Mounting on manipulator "Almega AX (EX)-MV series robot"

2.2 Mounting on Almega AX (EX)-MG series

Mount the wire feeder on the rotation frame of the manipulator.

For mounting, a wire feeder stand (L7497A) shall be purchased separately.

Mount the wire feeder stand on the rotation frame of the manipulator. And fix the wire feeder on it.

Remove the rear cover of the wire feeder stand to connect the cable of wire feeder motor, encoder cable, voltage detection cable, and cable of solenoid valve to the cable inside the manipulator.

Connect the other end of the voltage detection cable to the coaxial power cable. (Refer to the detailed drawing of the section A in the previous section.)

And confirm that the connectors have the same color. See the Chapter 8 titled "Electric connection drawing" for details.

In this wire feeder, no wire feeder stand, solenoid valve, connector for shock sensor, or warning lamp is provided.

A solenoid valve and connector for shock sensor are built in the wire feeder stand and a warning lamp (optional accessory) is in the manipulator.

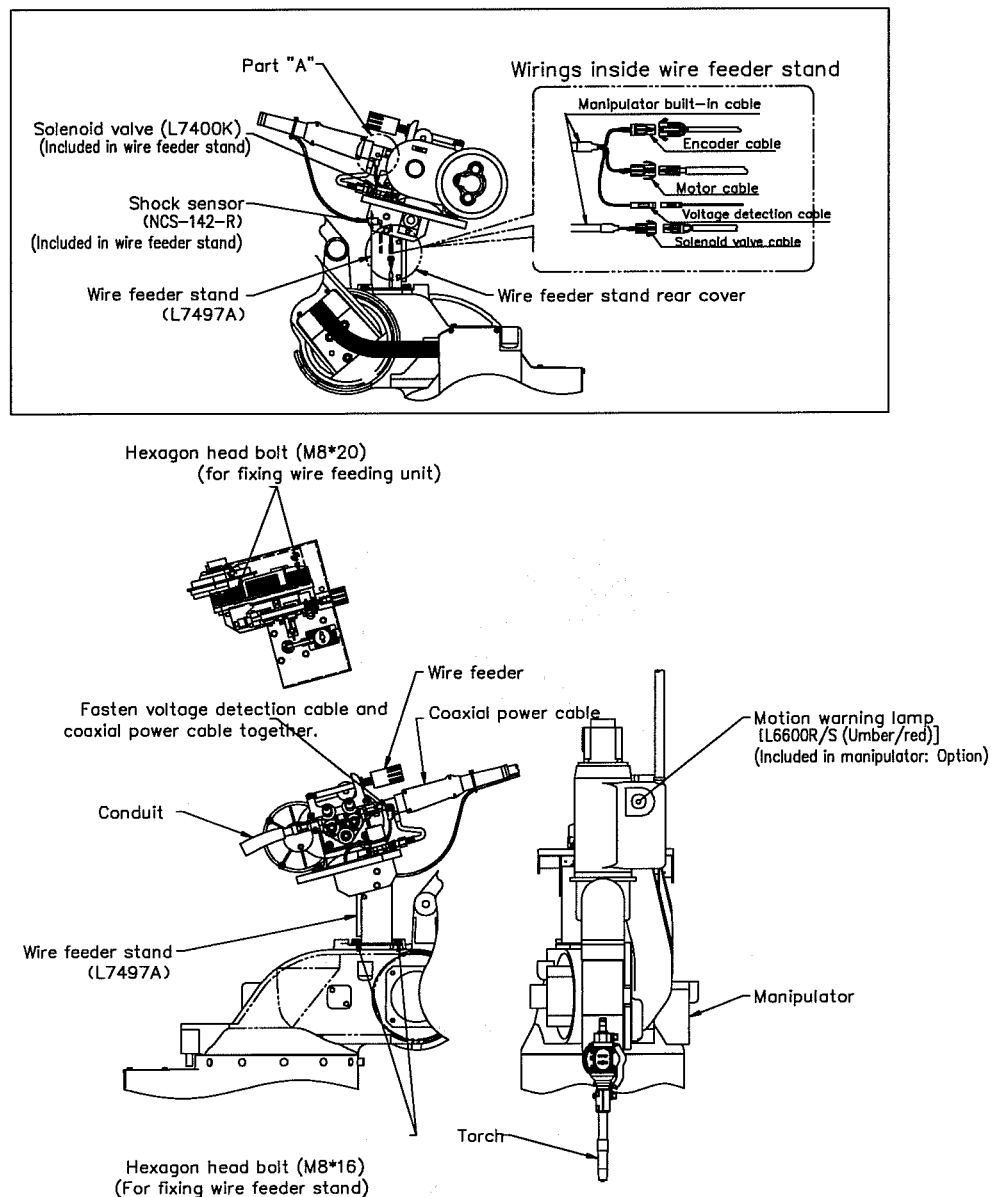


Fig. 3.2 Mounting on manipulator "Almega AX (EX)-MG series robot"

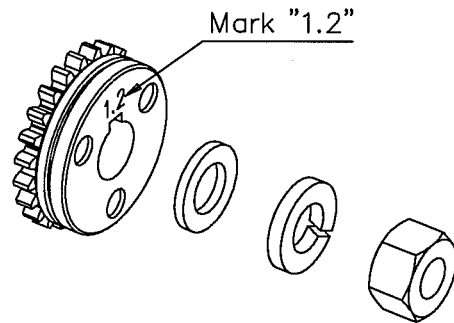
3. Preparation for Welding

3.1 Wire Mounting (Using Wire Feeder L-7437)

(Refer to Fig. 4 and table 3.)

Confirmation of wire size of feed roll

- ① Confirm if the feed roll to be mounted is suitable for the welding wire size.



- When feed rolls are shipped, parts for the steel $\phi 1.2$ wire are assembled. Choose feed rolls according to the wire size to use.

(Refer to Fig. 9 and table 6 and 7.)



IMPORTANT
1. For changing feed rolls, the tightening torque for nut (M10) to mount the feed roll shall be:
17.7N*m (180kfg*cm)

Confirmation of the pressure roll

- ② Confirm that the pressure roll to be mounted is suitable for the welding wire.



IMPORTANT
The pressure roll for steel and stainless steel is applicable to all the wire.

Confirmation of center guide

- ③ Confirm that the center guide is suitable for the wire.
(Refer to Fig. 9 and table 6.)

Wire mounting

- ④ Pull up the pressure handle.
- ⑤ Turn down the pressure roll holder.
- ⑥ Pull out the wire and pass it through the guide adapter. Insert it into the center guide and the outlet guide of the coaxial power cable.
- ⑦ Put back the pressure roll holder and the pressure handle in order.

Pressure adjustment with pressure handle

- ⑧ Turn the pressure handle to set the appropriate pressure for the wire diameter.
(Refer to table 3 and the indication plate on the wire feeder.)

2. Preparation for Welding (Continued)

Table 3 Recommended wire pressure adjustment (For mild steel /stainless steel)

Applicable wire diameter (mm)	Pressure handle scale
φ1.6	4 ~ 5
φ1.2, 1.4	3 ~ 4
φ1.0	2 ~ 3
φ0.8, 0.9	1 ~ 2

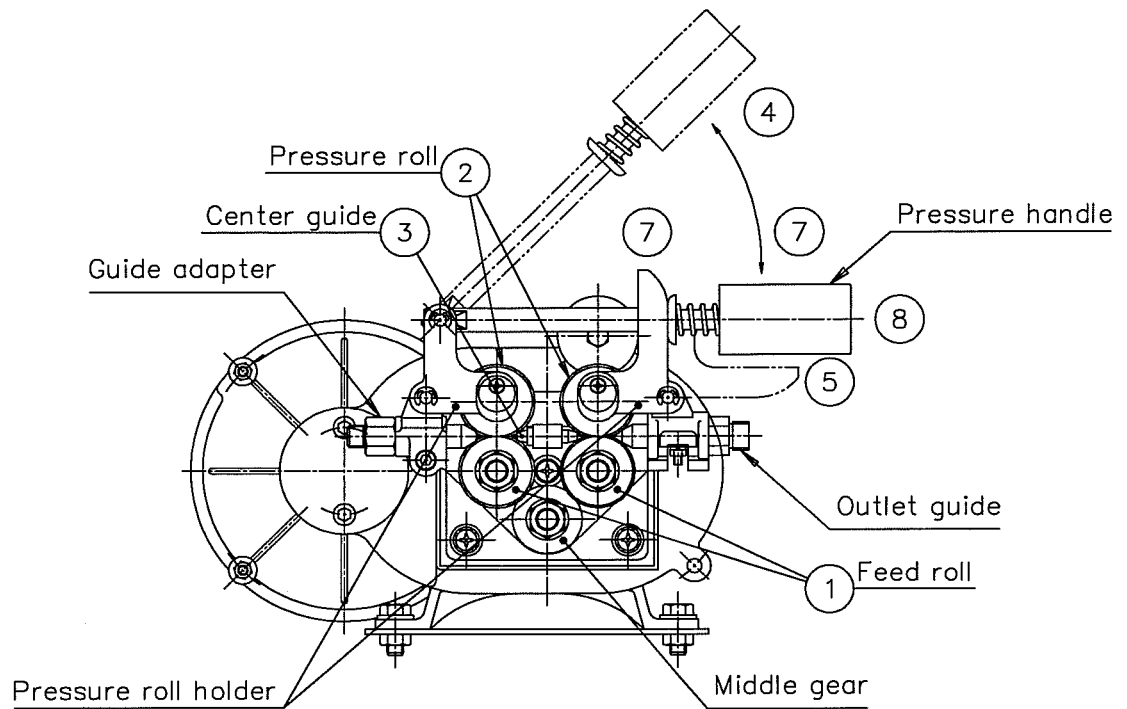


Fig. 4 Wire mounting

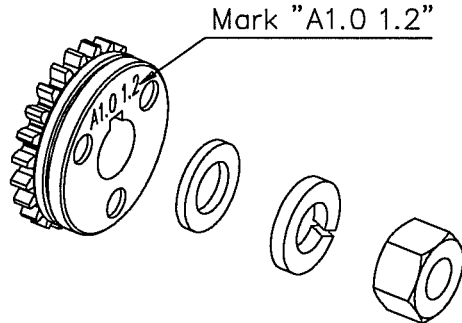
3. Preparation for Welding (Continued)

3.2 Wire Mounting (Using Wire Feeder L-7438)

(Refer to Fig. 5 and table 4.)

Confirmation of wire size of feed roll

- ① Confirm if the feed roll to be mounted is suitable for the welding wire size.



- When feed rolls are shipped, parts for an aluminum wire $\phi 1.0 \sim \phi 1.2$ are assembled. Choose feed rolls according to the wire size to use. (Refer to Fig. 9 and table 6 and 8.)

i IMPORTANT

1. A feed roll for an aluminum wire has the mark of "A" beside the applicable wire diameter. Confirm the mark on the feed roll.
2. When changing feed rolls, the tightening torque for nuts (M10) to mount feed rolls shall be:
180 kgf * cm (17.7N * m)

Confirmation of pressure roll and wire size

- ② Confirm if the feed roll to be mounted is suitable for the welding wire size.
- When pressure rolls are shipped, parts for an aluminum wire $\phi 1.0 \sim \phi 1.2$ are assembled. Choose a pressure roll according to the wire size to use. (Refer to Fig. 9 and table 8.)

i IMPORTANT

A pressure roll for an aluminum wire has the mark of "A" beside the applicable wire diameter. Confirm the mark on the pressure roll before use.

Confirmation of wire straightener

- ③ Confirm that a wire straightener is mounted when using an aluminum wire. A wire straightener is always required when an aluminum wire is used. (Refer to Fig. 13 and table 6 and 11.)

Confirmation of inlet guide and center guide

- ④ When an inlet guide and a center guide are shipped, parts for an aluminum wire are assembled. (Refer to Fig. 9 and table 6 and 11.)

3. Preparation for Welding (Continued)

Wire mounting

- ⑤ Pull up the pressure handle.
- ⑥ Turn down the pressure roll holder.
- ⑦ Draw the wire and insert it through the guide adaptor, wire straightener, inlet guide and the center guide into the outlet guide of the coaxial power cable.
- ⑧ Put back the pressure roll holder first, then the pressure handle.

Adjustment of pressure and straightener

- ⑨ Turn the pressure handle to set the appropriate pressure for the wire diameter.
(Refer to table 4 and the indication plate on the wire feeder.)
- ⑩ Turn the adjustment knob of the wire straightener to the appropriate mark.
(Refer to the indication plate on the side of the wire straightener.)

Table 4 Recommended wire pressure adjustment (For aluminum wire)

Wire diameter (mm)		Pressure handle scale
Hard	Mild	
-	-	4~5
-	-	3~4
φ1.2	-	2~3
φ1.0	φ1.2	1~2

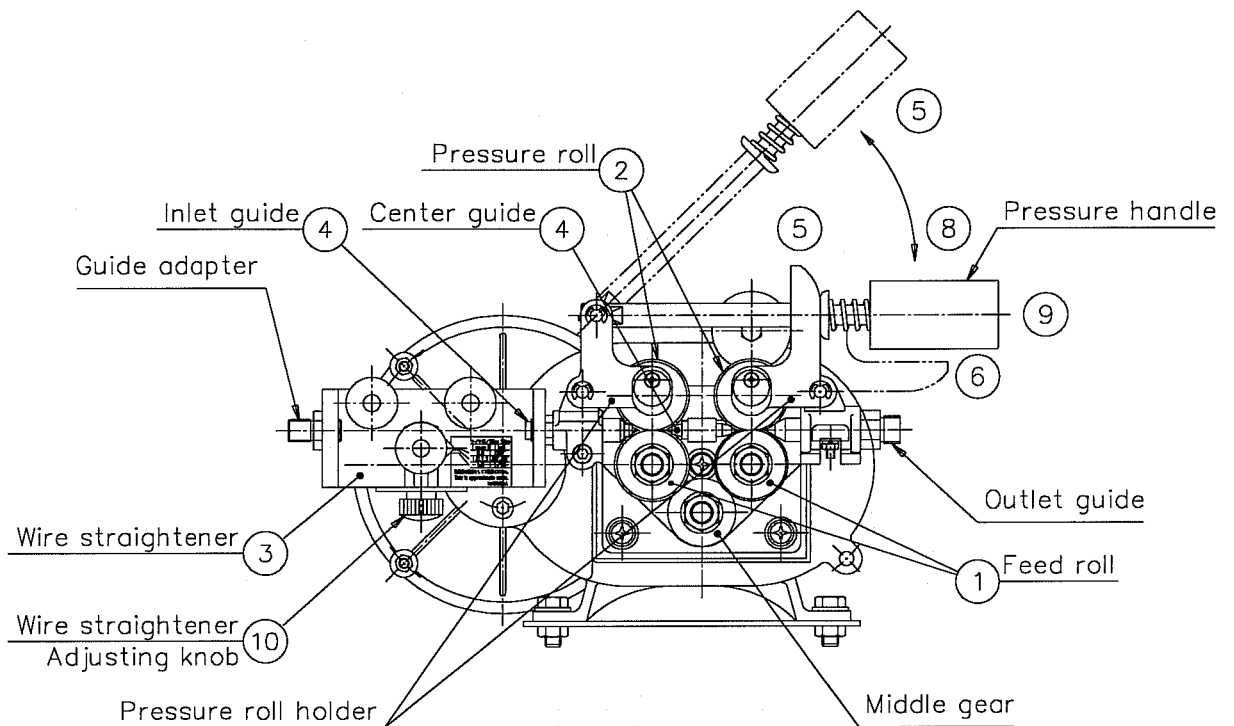


Fig. 5 Wire mounting

3. Preparation for Welding (Continued)
3.3 Wire Feed by Inching Operation

 **WARNING**



Do not bring your face, eyes, body etc. close to the welding torch tip while inching. Otherwise, wires may protrude and stick in them, resulting in an injury.

 **CAUTION**




Do not bring your hands, fingers, hair, clothes etc. close to the rotation part of wire feed roll while inching. Otherwise, you may be caught and get injured.

 **WARNING**

Do not touch the live electrical parts. Otherwise, fatal shock or burn may be received.



- If absolutely necessary to perform welding with the cover opened, be sure not to touch the live electrical parts such as wire and wire feeder.

 indicates the live electrical parts.

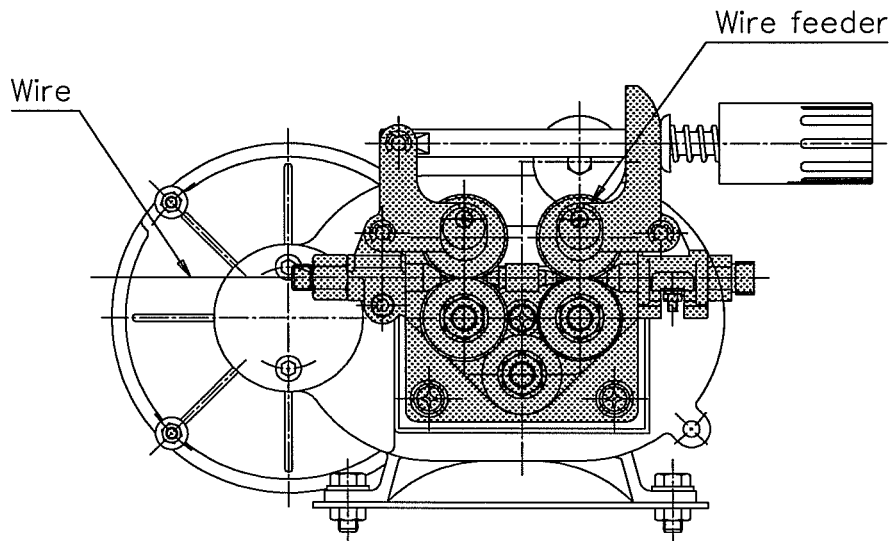


Fig. 6 Live electrical parts

4. Maintenance and Repairs

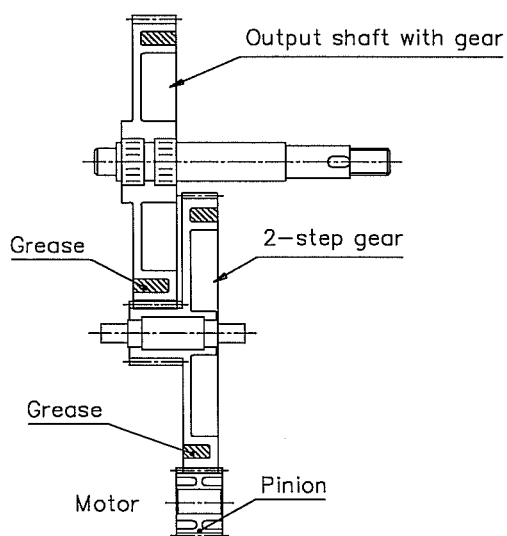
4.1 Inspection

Item	Check point	Problem / condition	Solution
Pressure scale	Is the pressure appropriate for its wire diameter?	Pressure is too weak. Or too strong.	Adjust the wire pressure to the recommended value shown on the page 6 and 8.
Guide adapter Center guide	Are there any waste wires or dust observed around the inlet part of guide adapter and the feed roll?	There are some waste wires or dust.	Remove the waste wire and dust.
Feed roll	Does the mark on feed roll line up with the wire diameter?	The wire diameter doesn't line up with the mark.	Replace the feed roll with one of appropriate wire diameter.
	Condition on the wire contact surface	The surface is worn.	Replace the feed roll with a new one.
Pressure roll	Is the pressure roll smoothly rotating?	The wire straightener is not smoothly rotating.	Replace the feed roll with a new one.
Wire straightener	Are there any waste wire or dust?	There are some waste wires or dust.	Remove the waste wire and dust.
	Is the pressure roll smoothly rotating?	The wire straightener is not smoothly rotating.	Remove the waste wire and dust or replace the wire straightener with a new one.
Cable	Are the cable and its cover in good condition?	The cover seems soon to be torn or broken.	Replace the cable with a new one.
	Is the joint firm enough?	The joint is not firm enough.	Fix it firmly.

4. Maintenance and Repairs (Continued)

4.2 Annual inspection

(1) Replacement of Grease in Reduction Gear Part



Remove the old grease and spread new one on the gear teeth and sides as shown in the drawing.

Brand name: Sunlight grease 1
(Showa Shell Sekiyu K.K.)

If this grease is not available, use the lithium type grease 1 produced by various manufactures.

⚠ Caution	DO NOT fill up the gear with grease. If the gear box is filled up with grease, the feed motor may burn out.
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(2) Replacement of Feed Motor

⚠ Caution	DO NOT disassemble the feed motor.
	<ul style="list-style-type: none">● Trouble may be caused.● DO NOT inspect the brush wear condition. DO NOT change the brush.● Encoder shall not be changed by itself.

The life of brush is ordinary 4,000 hours, though depending on the load conditions and the ambient temperature.

(About 2 years are expected to live if it operates 6 hours a day.)

Change feed motors periodically.

5. Parts List

If the parts are getting worn out or damaged while this wire feeder is used, see Fig 7 ~ 9 and table 5 ~ 8 to place an order with our sales office or agent. Provide the product name and its part No. (or the specifications) for ordering.

5.1 Parts list for Wire Feeder (L-7437 /L-7438)

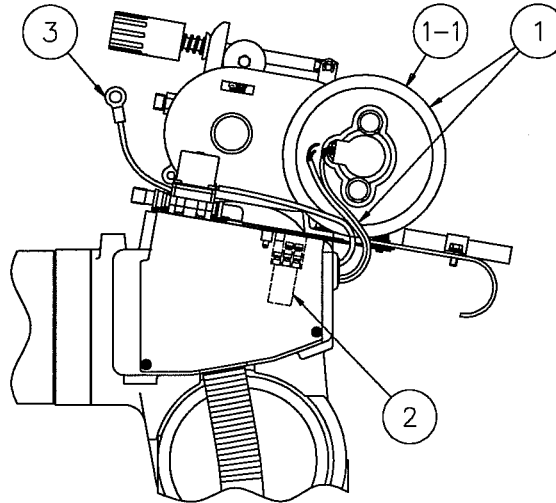


Fig. 7 Parts list for L-7437 & L-7438

Table 5 Parts list for L-7437 & L-7438

Ref. No.	Part number		Item	Q'ty	Remarks
	L-7437	L-7438			
1	L7437B	L7438B	Feeder unit ASSY	1	(Refer to section 8 for the electric wiring.)
(1-1)	L6989A	L7159A	Wire feeding reducer	(1)	Refer to section 5.2.
2	L7437C		Relay unit ASSY	1	Refer to section 8.
3	L7437D		Voltage detection cable	1	Refer to section 8.

5.2 Parts List for Wire Feeding Reducer (L6989A /L7159A)

Table 6. Parts list for L-6989 & L-7159

Ref. No.	Part number		Item	Q'ty	Remarks
	L6989A	L7159A			
1	K1123B01		Gear case	1	
2	-		Print motor	1	PMEE-12-OH61
3	K5114B01		Pinion	1	
3-1	3361-401		CS-type snap ring	1	CSTW-10
4	K1821B02		Two-step gear	1	
5	K1123B04		Output shaft	1	
6	3361-206		Key (Double-round)	3	4×4×8
7	K1123B05		Bush	2	
8	K1123B06		Insulating spacer	1	
9	3311-001		Deep-groove ball bearing	1	№6000ZZ
10	K5114C01		Gear case	1	
11	K1822C02		Insulating plate	1	
12	K1123C04		Insulating sleeve	1	
13	3311-008		Deep-groove ball bearing	5	№6001LL
14	K1822C01		Bracket	1	
15	K5112C04		Pressure roll holder (1)	1	
16	K1822C04		Pressure roll holder (2)	1	
17	K1821C04		Pressure roll pin	2	
18	K1821C05		Fulcrum pin	3	
19	3361-404		E-type snap ring	6	φ 5
20	K5112C05		Pressure bolt	1	
21	U929C16		Pressure spring	1	
22	K1123D01		Pressure handle	1	
23	-		CS-type snap ring	1	CSTW-6
24	K1123D03		Spring bearing	1	
25	K1123D05		Pressure nut	1	
26	K1822C06		Guide block	1	
27	K970G71	-	Center guide	1	For mild steel, /stainless wire
	-	K1822C07			For aluminum wire
28	L6542C01		Feed shaft	2	
29	K1822C10		Spacer	3	
29-1	K1123B07		Spacer	1	

5.2 Parts List for Wire Feeding Reducer (L6989A /L7159A) (Continued)

Table 6. Parts list for L-6989 & L-7159 (Continued)

Ref. No.	Part number		Item	Q'ty	Remarks
	L-6989	L-7159			
30	L6542C02		Middle gear	1	
31	L6564J	-	Feed roll (1.2)	2	For mild/stainless steel ϕ 1.2
	-	L6564P	Feed roll (1.0 -1.2)		For aluminum wire ϕ 1.0 ~ ϕ 1.2
32	L6542M	-	Pressure roll	2	For mild /stainless steel
	-	L6564Q	Pressure roll (1.0-1.2)		For aluminum wire ϕ 1.0 ~ ϕ 1.2
33	K1687D13	-	Guide adapter	1	
34	U785C09		Spring plate	1	
35	U785C11		Protection cover	1	
36	K1123C08		Remote stopper	1	
37	K5112C06		Bushing	1	For No.20
38	L7427C01		Insulating plate	1	
39	U1997C06		Insulating bushing	1	
40	-		Hexagon head bolt	2	M8×20(with W&SW)
41	L6542E	-	Wire straightener	1	For mild /stainless steel (Optional accessory)
	-	L6564C			For aluminum wire

Note) See the Chapter 7 titled "Countermeasures for deeply bent conduit" for wire straightener (Ref. No. 41).

(Optional accessory)

Optional accessory for wire feeding reducer (L6989A)

Table 7 List of optional feed rolls

Ref. No.	Part number	Item	Q'ty	Remarks
42	L6564F	Feed roll (0.8)	2	For mild /stainless steel ϕ 0.8
43	L6564G	Feed roll (0.9)	2	For mild /stainless steel ϕ 0.9
44	L6564H	Feed roll (1.0)	2	For mild /stainless steel ϕ 1.0
45	L6564K	Feed roll (1.4)	2	For mild /stainless steel ϕ 1.4
46	L6564L	Feed roll (1.6)	2	For mild /stainless steel ϕ 1.6

Optinal accessory for wire feeding reducer (L7159A)

Table 8 List for optional feed rolls

Ref. No.	Part number	Item	Q'ty	Remarks
47	L6564F	Feed roll (1.2 – 1.6)	2	For aluminum ϕ 1.2 – 1.6
48	L6564G	Pressure roll (1.2 – 1.6)	2	For aluminum ϕ 1.2 – 1.6

5.2 Parts List for Wire Feeding Reducer (L6989A /L7159A) (Continued)

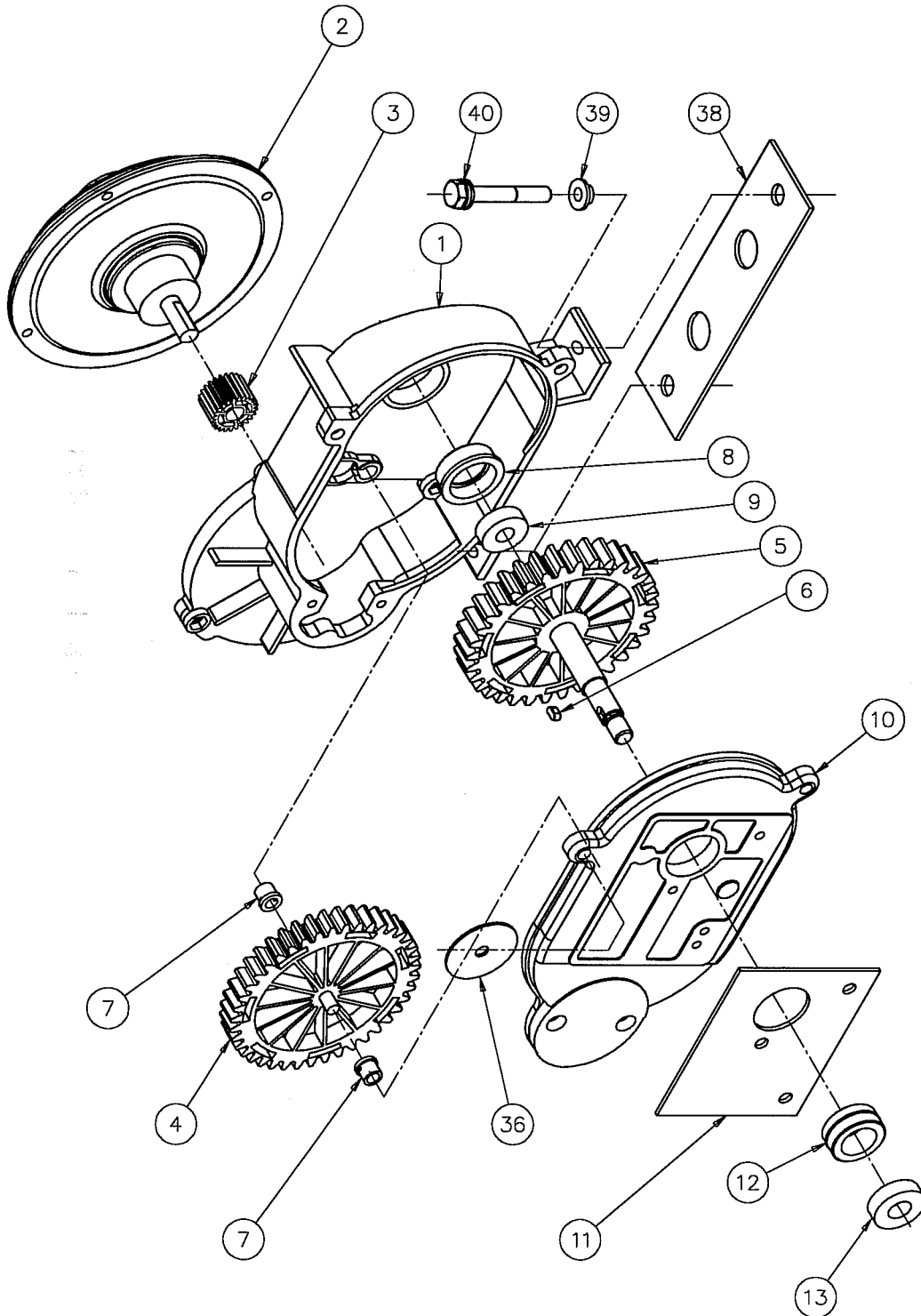


Fig. 8 Exploded drawing of wire feeding reducer

5.2 Parts List for Wire Feeding Reducer L6989A /L-7159A (Continued)

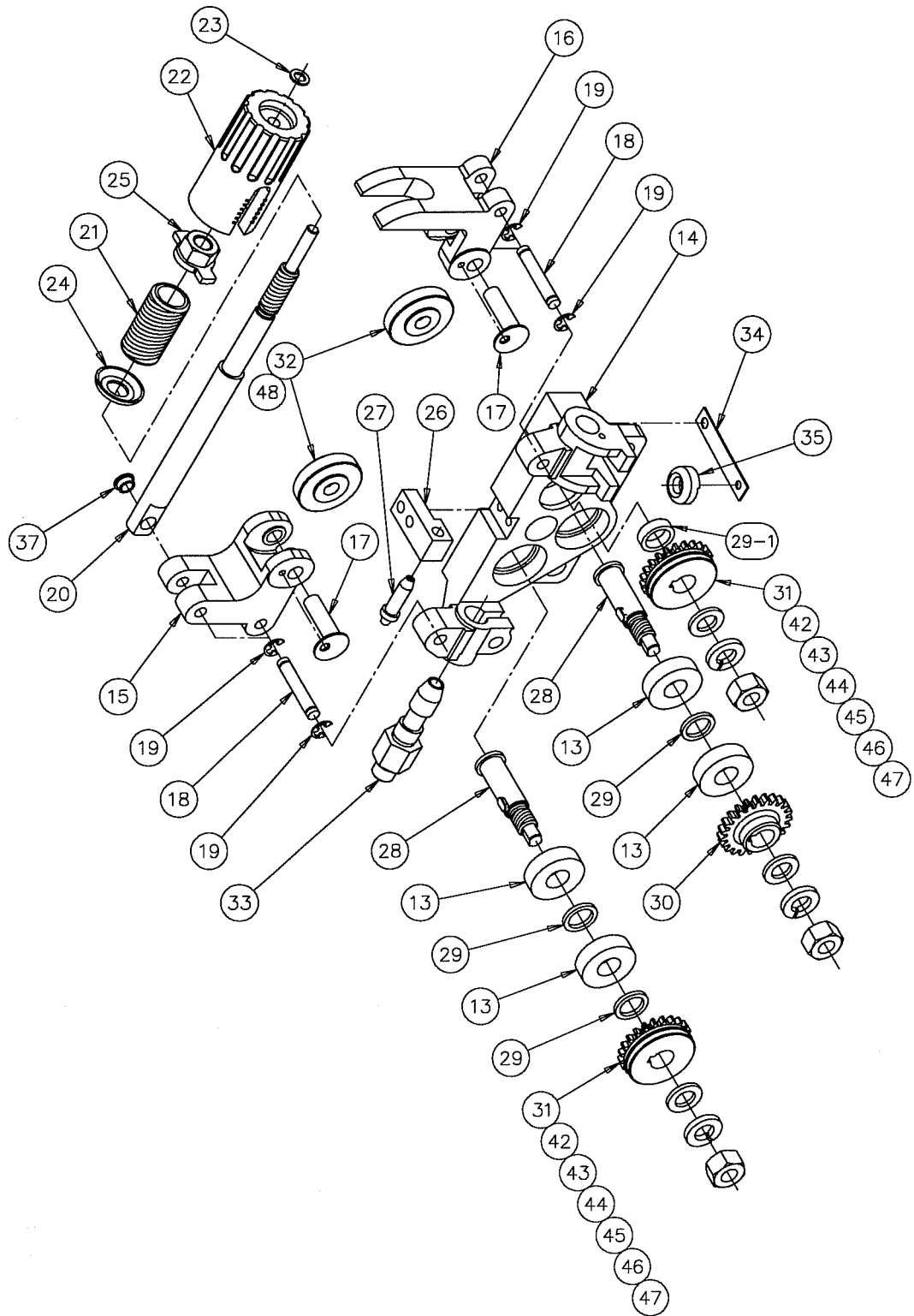


Fig. 9 Exploded drawing of wire feeding and pressure section

6. Change of wire

If the welding wire is changed (Fe, SUS wire \longleftrightarrow Al wire), see table 9 and 10 to place an order with our sales office or agent.

6.1 Parts for Wire Feeder L-7437 (Fe, SUS wire \rightarrow Al wire)

If the welding wire is changed from a steel (mild steel) or stainless steel to an aluminum, choose a feed /pressure roll, inlet guide, and center guide suitable for the wire size from the table 9.

Table 9 Parts for arrangement

Part number	Item	Q'ty	Remarks
L6564P	Feed roll(1.0-1.2)	(2)	For aluminum wire ϕ 1.0 -1.2
L6564Q	Pressure roll(1.0-1.2)	(2)	For aluminum wire ϕ 1.0-1.2
L6564R	Feed roll(1.2-1.6)	(2)	For aluminum wire ϕ 1.2-1.6
L6564S	Pressure roll(1.2-1.6)	(2)	For aluminum wire ϕ 1.2-1.6
L6564E	Wire straightener	1	
U2344C10	Inlet guide	1	For aluminum wire
K1822C07	Center guide	1	For aluminum wire

6.2 Parts for Wire Feeder L-7438 (Al wire \rightarrow Fe, SUS wire)

If the welding wire is changed from an aluminum to a steel (mild steel) or stainless steel, choose a feed /pressure roll, inlet guide, and center guide suitable for the wire size from the table 10.

Table 10 Parts for arrangement

Part number	Item	Q'ty	Remarks
L6564F	Feed roll (0.8)	(2)	For mild steel /SUS ϕ 0.8
L6564H	Feed roll (1.0)	(2)	For mild steel /SUS ϕ 1.0
L6564J	Feed roll (1.2)	(2)	For mild steel /SUS ϕ 1.2
L6564K	Feed roll (1.4)	(2)	For mild steel /SUS ϕ 1.4
L6564L	Feed roll (1.6)	(2)	For mild steel /SUS ϕ 1.6
L6542M	Pressure roll	2	Applicable to all wire size
K1687D13	Guide adaptor	1	When no wire straightener is used.
K970G70	Inlet guide	1	For mild steel /SUS wire
K970G71	Center guide	1	For mild steel /SUS wire

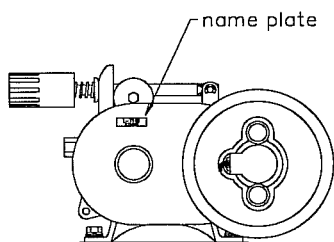


Fig. 10 Name plate for wire feeder

i IMPORTANT

Each wire feeder has a name plate that indicates model number. (Refer to the drawing shown on the left.) Please note that the actual specifications of the wire feeder differ from what described in the name plate after feed /pressure roll, inlet guide, and center guide are changed in accordance with the change of the wire material.

7. Countermeasures for Deeply Bent Wire

This wire feeder has the capability to correct the bent wire when a wire straightener is mounted.
(Refer to Fig. 2 for the outline drawing.)

If the wire bends deeply causing aim deviation, install a wire straightener.
(A wire straightener for wire feeder L-7437 is an optional accessory.)

i IMPORTANT

A wire straightener (Refer to table 6) shall be always mounted while an aluminum wire is used.

7.1 Mounting procedure of wire straightener

- ① Loosen the hexagon socket head cap screw (M6) and remove the attached guide adapter.
- ② Insert the wire straightener as indicated in Fig.9 and tighten the hexagon socket head screw (M6).

7.2 Adjustment of Wire Straightener

- ③ Turn the control of the wire straightener to the appropriate mark.

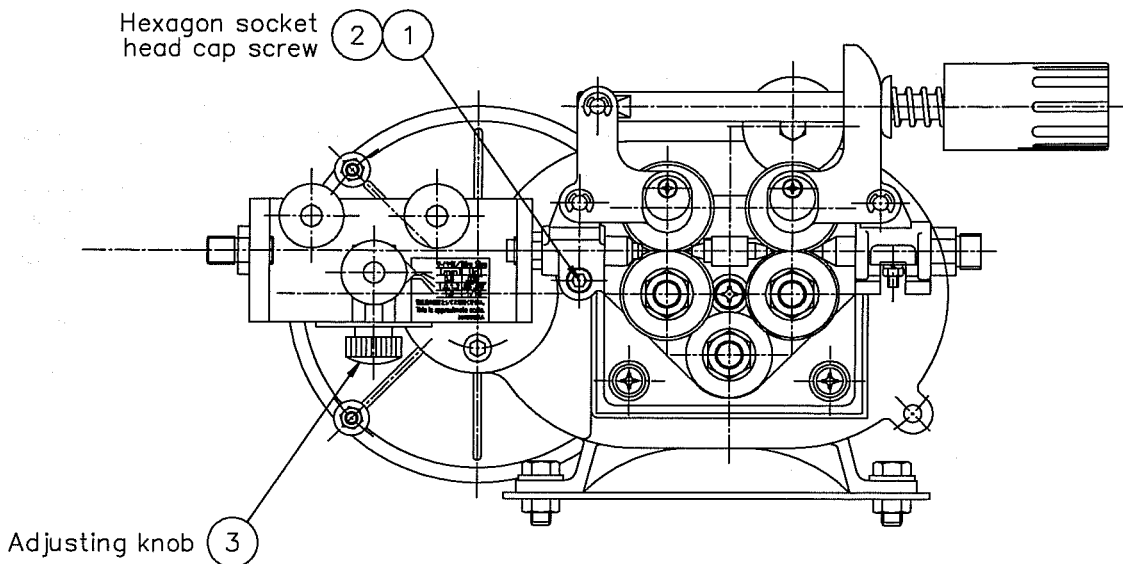



Fig. 11 Installment of Wire Straightener


7.3 Without Using a Conduit


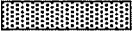
If a conduit is not used (wire is inserted directly from the wire reel), remove the adaptor and mount an attached pilot.

7. Countermeasures for Deeply Bent Wire (Continued)

Wire Feed by Inching Operation

! WARNING	
	Do not bring your face, eyes, body etc. close to the welding torch tip while inching. Otherwise, wires may protrude and stick in them, resulting in an injury.

! CAUTION	
	Do not bring your hands, fingers, hair, clothes etc. close to the rotation part of wire feed roll while inching. Otherwise, you may be caught and get injured.

! WARNING	
Do not touch the live electrical parts. Otherwise, fatal shock or burn may be received.	
	<ul style="list-style-type: none">● If absolutely necessary to perform welding with the cover opened, be sure not to touch the live electrical parts such as wire and wire feeder. <p> indicates the live electrical parts.</p>

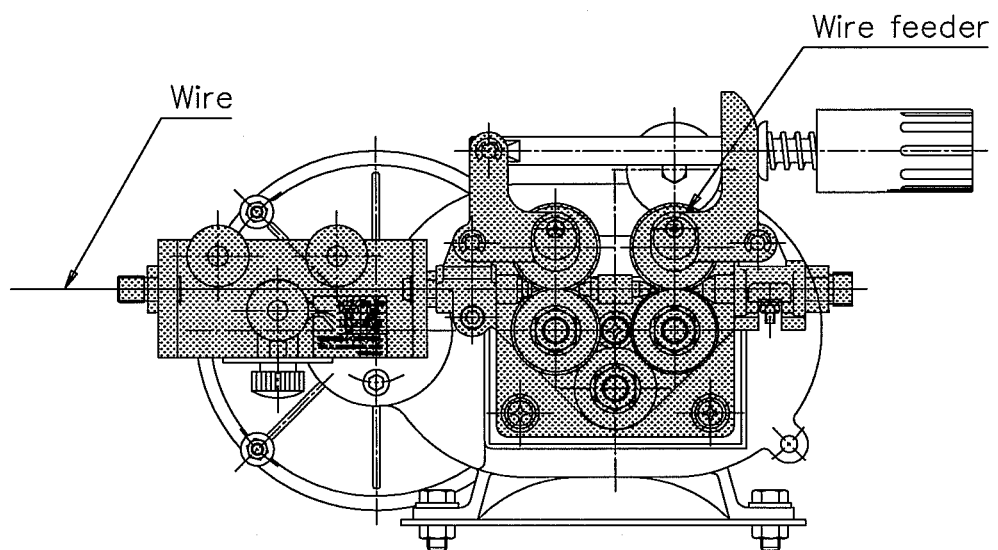


Fig. 12 Live electrical parts

7. Countermeasures for Deeply Bent Wire (Continued)

7.5. Parts list for wire straightener

Table 11. Parts list for wire straightener

Ref. No.	Part number		Item	Q'ty	Remarks
	L6542E	L6564C			
49	K1821J01		Wire straightener body	1	
50	K1821J02		Patch	1	
51	K1821J03		Adjusting screw	1	
52	U2344C04		Roller shaft	2	
53	3311-014		Deep-groove ball bearing	2	No.629ZZ
54	-		E-type snap ring	3	φ7
55	U2344C05		Slide shaft	1	
56	U2344C06		Pointer	1	
57	U69C02		Groove ball bearing	1	
58	-		Adjustment knob	1	KN15
59	U2344C07		Adaptor	1	
60	K970G70	-	Inlet guide	1	Mild steel /Stainless steel
	-	U2344C10			For φ1.2 ~1.6 For aluminum φ1.0 ~1.6
61	L3753B01		Adaptor	1	
62	U2344C08		Pilot	(1)	Accessory

7. Countermeasures for Deeply Bent Wire (Continued)

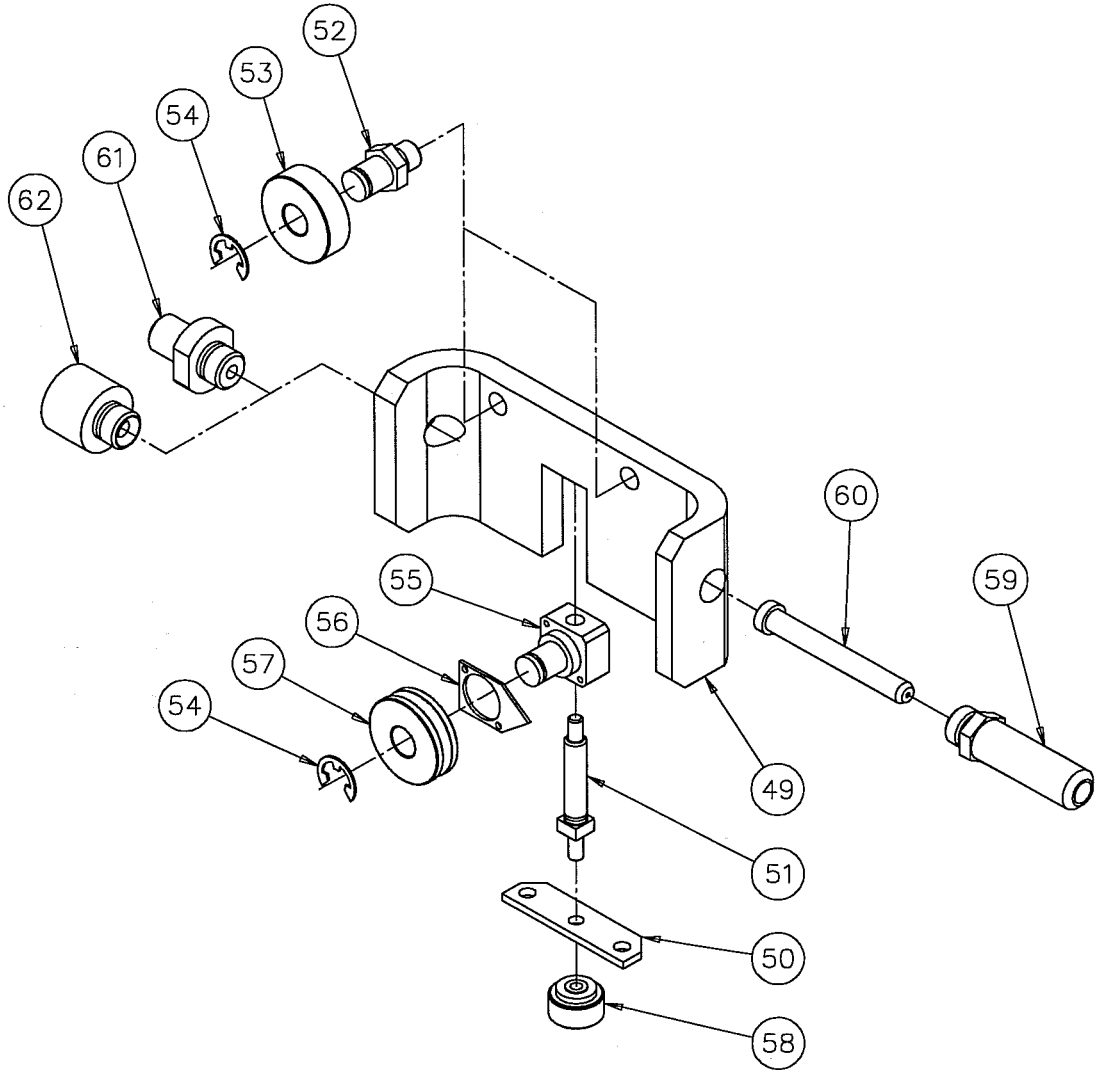


Fig. 13 Exploded drawing of wire straightener

8. Electric connection drawing

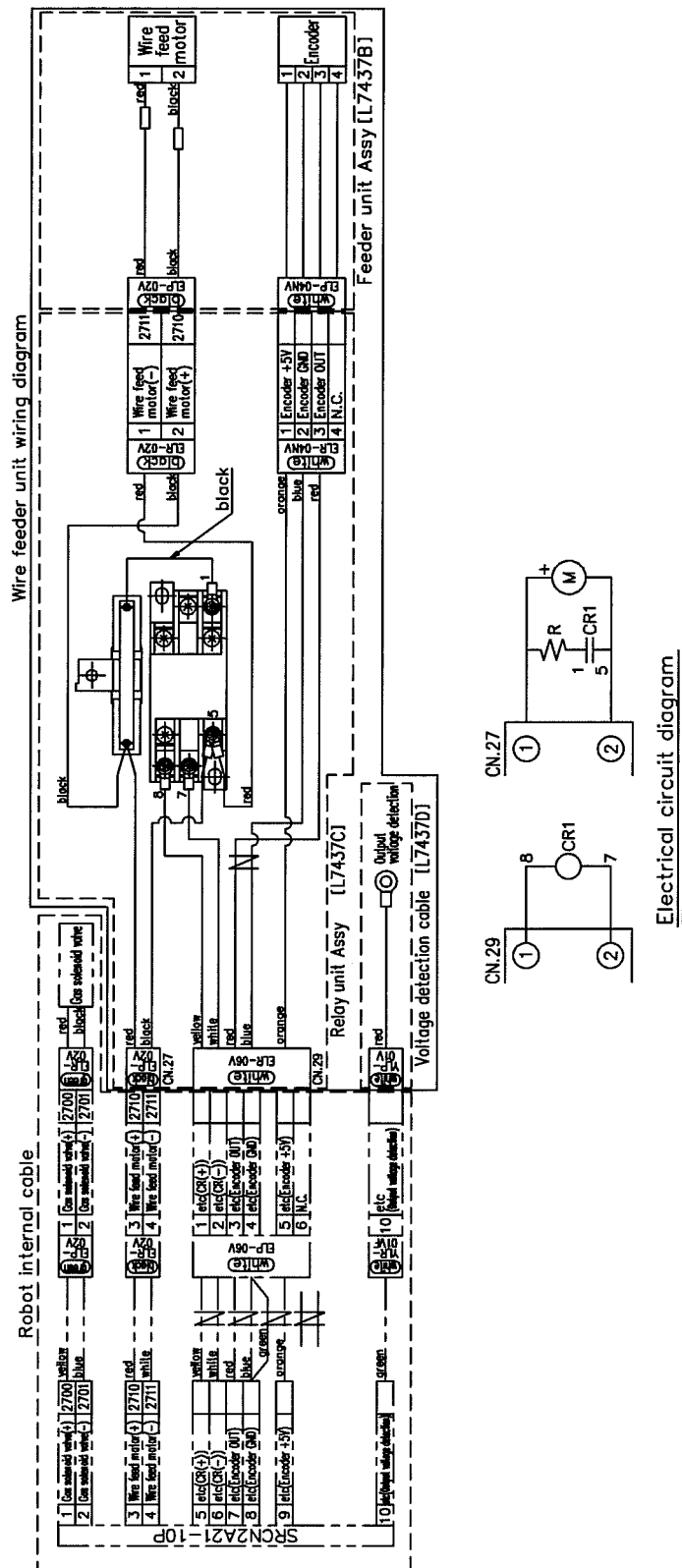


Fig.14 Electric connection drawing

Instruction Manual for CO₂/MAG/MIG Wire Feeder [L-7437/L-7438]

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ITEMS OF MAIN PRODUCTS

ARC WELDING MACHINES

AC ARC WELDING MACHINES
DC ARC WELDING MACHINES
CO₂ GAS-SHIELDED ARC WELDING MACHINES
MAG ARC WELDING MACHINES
MIG ARC WELDING MACHINES
TIG ARC WELDING MACHINES
SUBMERGED ARC WELDING MACHINES
NO-GAS-SHIELDED ARC WELDING MACHINES
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AIR PLASMA CUTTING MACHINES

ARC WELDING ROBOT

CO₂ LASER EQUIPMENTS

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