Welding Torch for Pull Feeding Unit

(AFPS-4311ZT)

with Built-in Shock Sensor

MTXCB-3534PZT

CO_2/MAG

Instruction Manual

= Safety and Operation =

Instruction Manual No.
1L10429-E-1

First thoroughly read this manual to operate the machine correctly.

- Installation, maintenance, and repair of this welding torch should be made by qualified persons or persons who fully understand welding machines for extra safety.
- Operation of this welding torch 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.

Contents

NOTES ON SAFETY

1. Notes on Safety

- Before operating this product, you should first thoroughly read this Instruction Manual to operate the product correctly.
- Precautions in this Instruction Manual are described to prevent you and others from being injured and suffering loss in your property by having the product operated correctly and safely.
- This welding torch is designed and manufactured in due consideration of safety, but you should observe the handling precautions described in this Instruction Manual. If you fail to do so, there may occur an accident resulting in serious injury or death.
- Various ranks of accidents resulting in injury, death or damage may be caused by the mishandling of devices. The following safety alert symbols and signal words are used throughout this manual to identify various hazards and special instructions.

DANGER	:	Mishandling may create seriously dangerous situation that could cause serious injury or death to personnel. Limited situation of great urgency.
WARNING	:	Mishandling may create a dangerous situation that could cause serious injury or death to personnel.
CAUTION	:	Mishandling may create a dangerous situation that could cause medium or slight injury to personnel, or material damage.

Hazards and special instructions identified by CAUTION are very important as well because neglecting them may occasionally cause serious injury or death to personnel. Do follow the instructions identified by all three safety alert symbols and signal words because they are all very important.

The meanings of "serious injury", "medium or slight injury" and "material damage" are as follows.

Serious injury	:	Injury with a sequel due to a loss of eyesight, injury, burn (high temperature and low temperature), electric shock, a bone fracture, poisoning and so on as well as injury that requires hospital treatment or long treatment as an outpatient.
Medium or slight injury	:	Injury, burn, electric shock and so on that require no hospital treatment nor long treatment as an outpatient.
Material damage	:	Damage to property, and direct and incidental / consequential damage due to the damage to devices.

Ref.: IMPORTANT	:	IMPORTANT statements identify special instructions necessary for the most efficient operation.

PRECAUTIONS FOR SAFETY

2. Precautions for Safety

2.1 Read, understand, and comply with all safety rules described at the beginning of the welding power source manual in addition to the following before initiating arc welding operations.

⚠ WARNING	● Observe the following to prevent a serious accident that results in a serious injury or a death

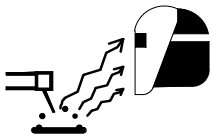
1) This welding torch is designed and manufactured in due consideration of safety, but you should observe the handling precautions described in this Instruction Manual. If you fail to do so, there may occur an accident resulting in a serious injury or a death.
2) Related laws and regulations and your company's standards should be observed in constructing input power source, selecting an installation area, handling/storing/piping high pressure gas, storing welded products, and disposing wastes.
3) Keep out of the moving zone of a welding machine and the welding area.
4) A person with a pacemaker should not go near the operating welding machine and the welding area unless his or her doctor permits. A welding machine generates a magnetic field around it during powered, and that will have a bad effect on the pacemaker.
5) Installation, maintenance and repair of this welding torch should be done by qualified personnel or those who fully understand a welding torch for further safety.
6) Operation of this welding torch should be done by personnel who have knowledge and technical skill to be able to understand the contents of this manual well and to handle the wire feeding reducer safely.
7) This welding torch must not be used for purposes other than welding.

2.2 Observe the following to prevent an electric shock.

⚠ WARNING	● Do not touch live electrical parts .
	● Touching live electrical parts can cause fatal shock or severe burns.

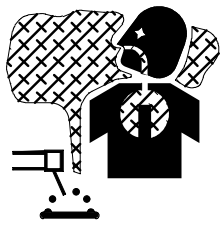
1) Only qualified personnel should do the grounding work of the welding power source and a workpiece, or a workpiece and powered peripheral jigs while abiding by domestic regulations.
2) Do not touch live electrical parts.
3) Always wear dry insulating gloves and other body protection. Do not wear torn or wet gloves and work clothes.
4) Before doing the installation, inspection, maintenance, etc. of this product, be sure to turn off all the input power sources and check, several minutes later, that there is no charging voltage since the condenser and the like may have been recharged.
5) Do not use cables with insufficient capacity, with damage, or with naked conductors.
6) Be sure to tighten the connections of cables and insulate them in order to prevent personnel from touching those parts easily.
7) DO NOT use a welding machine with its case or cover removed.
8) Secure a firm foothold before initiating work. DO NOT perform work with an unstable foothold or with a foothold at a height of two meters or above.
9) Make periodic inspection and maintenance. Damaged parts should be repaired before use.
10) Turn off POWER switch when not in use.

2.3 All the personnel in and around the working area including an operator should wear appropriate protection to protect themselves from arc rays, spatters, slag and noise produced by welding.

⚠ WARNING	● Install a lightproof wall where arc is generated. ● Wear appropriate eye, ear, and body protection.
	● Arc rays may cause inflammation of eyes and burns on skin ● Spatter s and slag may cause eye troubles and burns. ● Noise may cause hearing problems.

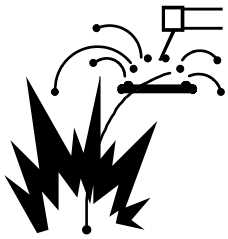
1) Wear lightproof glasses or a welder's shield helmet with a proper shade of filter when welding or watching a welder work.
2) INSTALL ARC PROTECTIVE CURTAINS in between an operator and arc rays.
3) WEAR PROPER SAFETY GLASSES in work area at all times.
4) WEAR PROPER EAR PROTECTION.
5) WEAR PROPER BODY PROTECTION including woolen clothing, flameproof apron and gloves, leather leggings, high boots and leather arm and shoulder gauntlets.
6) WEAR PROPER SAFETY GLASSES to protect eyes and skin from spatters and slag.

2.4 All the personnel in and around the working area including an operator should wear appropriate protection to protect themselves from fumes and gases produced by welding.

⚠ WARNING	● DO NOT inhale fumes and gases generated by welding. ● Ventilate the area sufficiently and wear a welder's shield mask if necessary.
	● Fumes and gases generated by welding have a harmful effect on human body. ● Welding in a small area may cause suffocation due to the lack of air.

1) KEEP YOUR HEAD out of fumes and DO NOT inhale any.
2) USE FORCED EXHAUST VENTILATION at the arc.
3) VENTILATE the area to prevent build-up of fumes and gases.
4) If ventilation is insufficient, USE APPROVED BREATHING DEVICES.
5) READ AND FOLLOW WARNING LABELS on all containers of welding materials.
6) Before use, READ AND UNDERSTAND the manufacture's instructions, Material Safety Data Sheets (MSDSs), and follow your employer's safety practices.
7) To prevent gas poisoning and suffocation, use a local ventilator or a respirator specified by your country's domestic laws.
8) Be sure to ventilate the area or wear a respirator by welding in a small place.
   A well-trained watchman should observe the work.
9) Do not weld near the place where degreasing, cleaning or spraying is carried out. The heat and rays
   of the arc can react with vapors to form highly toxic and irritating gases.
   If welding is carried out there, harmful gases may be produced.
10) Toxic fumes and gases are produced when coated steel is welded.
    Be sure to ventilate the area sufficiently or use a respirator.

2.5 Prevent fire, explosion, burns and injury caused by heated workpiece, spatters, slag, and arc sparks right after welding as described below.

⚠ WARNING	● Do not weld near flammable materials. ● Watch for fire: keep a fire extinguisher nearby. ● NEVER do welding on inflammables such as a piece of wood or cloth. ● Do not weld on closed containers.
	● Be sure to tightly connect the welding cable. Heated workpiece, spatters, slag and arc sparks right after welding may cause fire. ● Incomplete cable connections, incomplete contacts in the current circuit of the workpiece such as steel frames may cause a fire due to the heat generated when powered. ● Arc generated on containers of inflammables such as gasoline may cause an explosion. ● Welding of airtight tanks and pipes may cause a bursting. ● Touching a heated workpiece, spatters, slag or arc sparks will cause a serious burn.

1) KEEP FLAMMBLE MATERIALES out of the robotic cell.
2) Welders should wear appropriate protection such as flameproof leather gloves, work clothes with long sleeves, a leg cover, a flameproof leather apron in order to prevent burns caused by touching heated workpiece, spatters, slag and arc sparks right after welding..
3) WATCH for fire.
4) Have a fire extinguisher nearby. Operators should know how to use it.
5) DO NOT touch heated workpiece and peripheral jigs with inflammables such as a piece of wood or cloth. Doing so might cause not only a fire but also burns.
6) DO NOT put heated workpiece close to inflammables right after welding.
7) Remove inflammables from the place where welding is carried out so that spatters and slag will not strike them.
8) Do not use inflammable gases near the welding sight.
9) Tighten and insulate the cable connections completely.
10) Connect the cables on the workpiece side as close to the welding area as possible to prevent the welding current from traveling along unknown paths and causing electric shock and fire hazards.
11) A gas pipe with gas sealed in, an airtight tank and a pipe must not be welded because they might explode.
12) NEVER do welding on inflammables such as a piece of wood or cloth.
13) When welding a large-size structure such as a ceiling, floor, wall, etc., remove any inflammables hidden behind a workpiece.

For reference purposes

PRINCIPAL SAFETY STANDARDS

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.

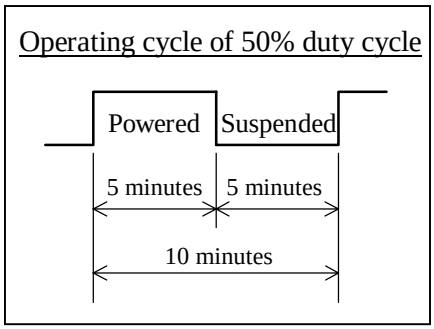
NOTES ON USE

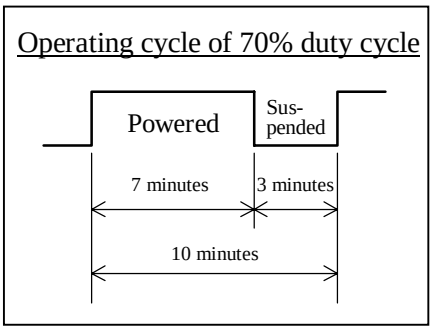
3. Precautions in operating

3.1 Duty cycle

CAUTION	● Observe the following to prevent a serious accident that results in a serious injury or a death

Welding torch	Rated duty cycle
MTXC-3534PZT	350A, 50%(CO_2) 250A, 50%(MAG)





- The rated duty cycle of 50% means that the torch is operated at the rated welding current for 5 minutes out of 10 minutes and suspended for 5 minutes.
- The rated duty cycle of 70% means that the torch is operated at the rated welding current for 7 minutes out of 10 minutes and suspended for 3 minutes.
- If the torch is operated at more than the rated duty cycle, the welding torch temperature rises over the allowable value to cause to be burnt and cause a burn.
- When MTXCW-5041PS is operated, feed water with a water pump without fail. If no water is circulated, the welding torch temperature rises over the allowable value to cause to be burnt and cause a burn.

3.2 Inching

⚠ WARNING	● Do not look into the tip hole in inching to cheek. ● In inching, the welding torch tip must not be put near to your face, eye, and body.
	● Do not look into the tip hole in inching to check if the wire is fed. The wire may spring out and stick into your face, eyes, and body. It is very dangerous. ● In inching, the welding torch tip must not be put near to your face, eyes, and body. The wire may spring out and stick into your face, eyes, and body to injure.

3.3 Replacement of Parts

⚠ CAUTION	● To prevent burns, observe the following.

● Do not directly touch the high-temperature parts of a nozzle, an electrode and so on.
● When welding, wear suitable protection such as leather gloves for welding.
● Do not replace torch tip elements before they cool off.

⚠ CAUTION	● If any parts are damaged, replace them with new ones for further safety and better quality.

● Be sure to place an order for replacement at our sales office or our agency.

⚠ CAUTION	● Do not disassemble the shock sensor. If disassembled, gas leak and malfunction may be caused.

Thank you for purchasing our DAIHEN CO_2 / MAG torch for pull feeding unit.
Before you use this product, read this instruction manual thoroughly for correct use.

[Note] 1. Specifications and information contained in these manuals 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

This torch is for CO_2 arc welding, MAG welding which is used as a servo torch to combine the pull feeding unit (AFPS-4311ZT).

The specifications are shown in table 1.1. (For the external view, refer to Fig. 1.1.)

Table1.1 Specifications for welding torch for pull feeding unit

Type	MTXC-3534PZT
Torch shape	Curved
Welding method	CO_2 arc welding, MAG welding process
Max. applicable current	350A (250A)
Rated duty cycle	50% (50%)
Applicable wire	Solid wire Flux cored wire Steel, SUS
Nozzle cleaning	Air-blow function
Applicable wire size	(Φ0.8), Φ0.9, (Φ1.0),(Φ1.2), (Φ1.4), (Φ1.6)
Cooling method	Air-cooled
Shock sensor	Built-in
Mass	1.6(kg)

Note)1. The welding process determines maximum applicable current and rated duty cycle.
2. When the robot for Arc welding is used, the welding torch might contact the workpiece and the jig causing the welding torch transformation and the robot damage. To prevent such an accident, this welding torch has the built-in shock sensor function which stops the manipulator immediately when more than the specified external forces are applied to the torch tip (nozzle). The external forces let the nozzle escape as soon as the external force sensing signal is output on the way.
3. The above shown mass is only for the torch. The mass of the bracket and of the pull wire feeding unit are not included.

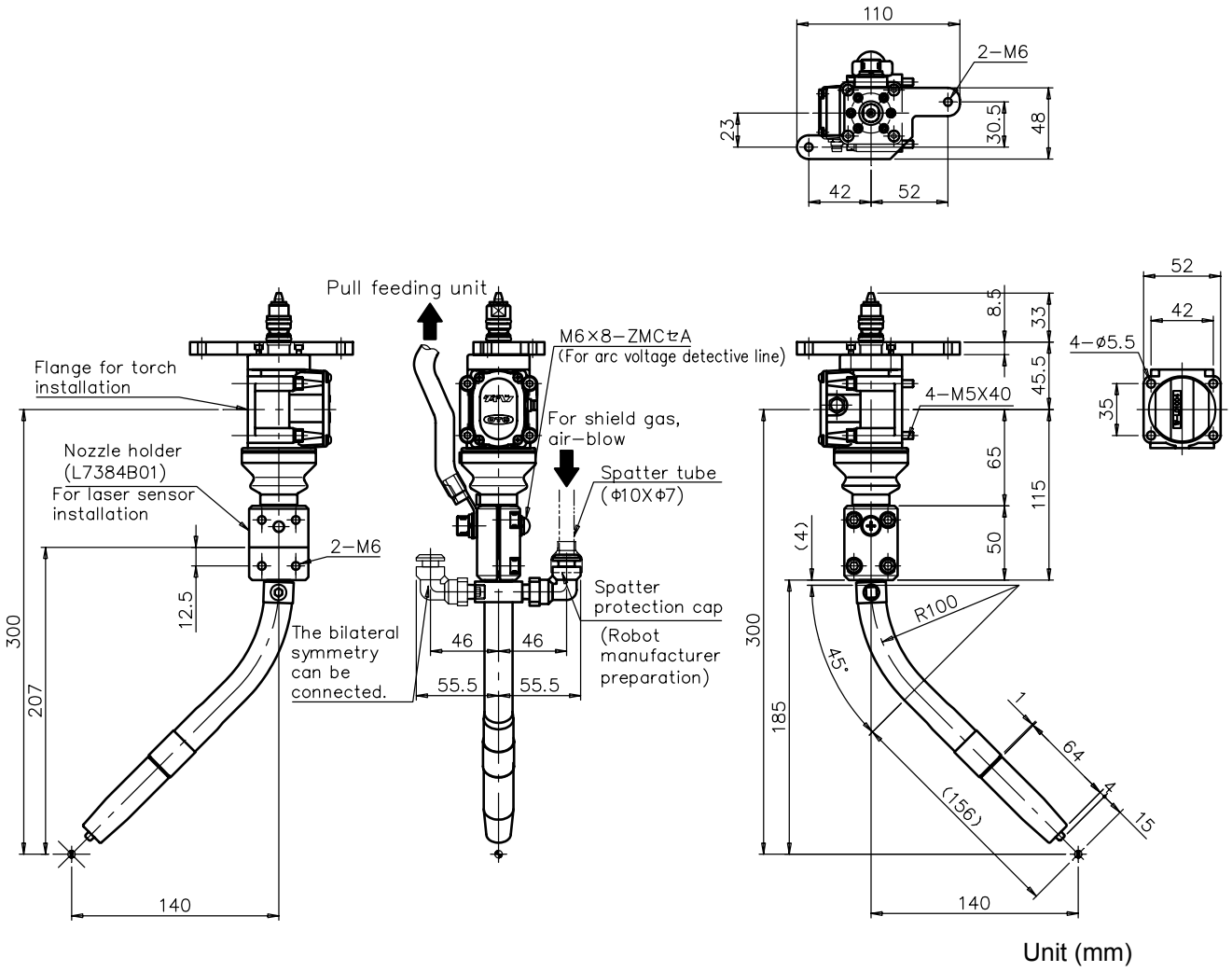
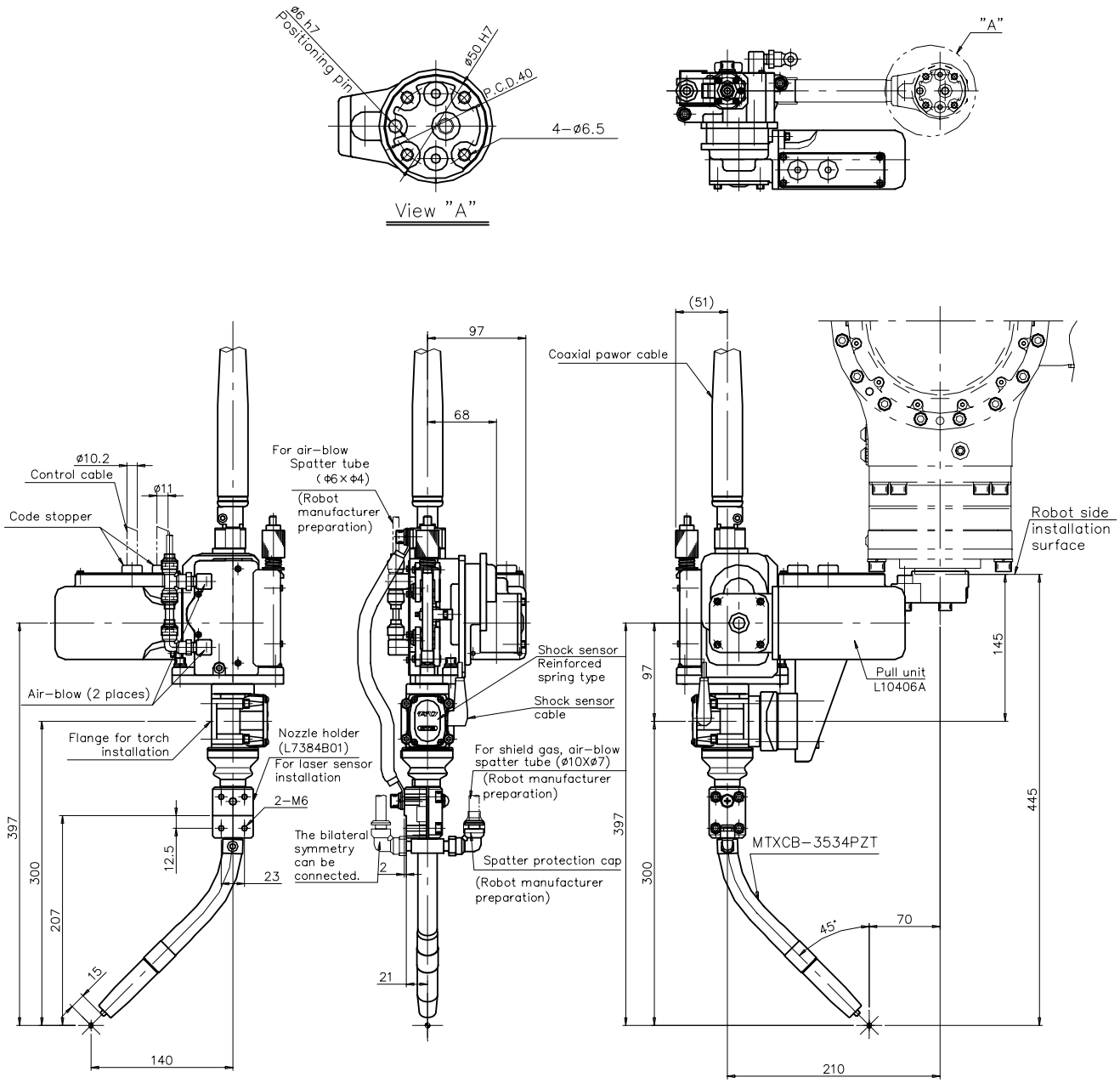


Fig.1.1 External view of air-cooled 350A CO_2 / MAG curved torch MTXC-3534PZT with shock sensor



Unit (mm)

Fig.1.2 Installation drawing of MTXCB-3534PZT and pull feeding unit (AFPS-4311ZT)

2. Checking the Contents

2.1 Checking the Contents

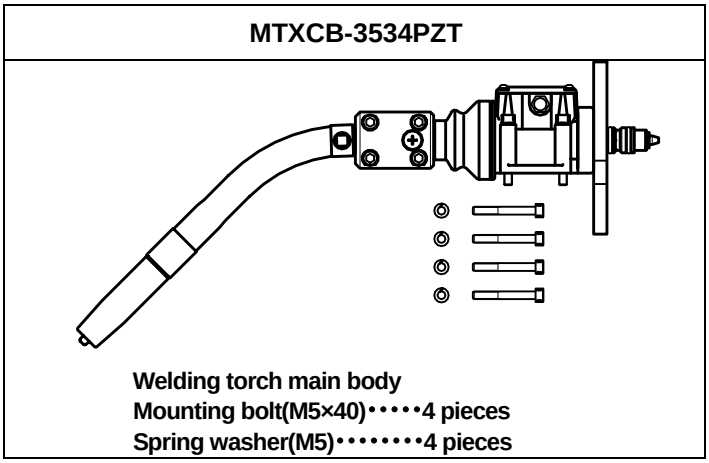


Fig. 2.1 Checking the contents

Note) 1. Use of the MTXCB-3534PZT air-blow torch requires the air-blow hose and air-blow solenoid valve.
2. The above mounting bolt (M5*40) is to mount the torch on the mounting bracket.
The pull feeding unit is equipped with the screw for mounting the pull feeding unit (AFPS-4311ZT).

2.2 Standard Equipment

Check that the items below are equipped when unpacked.

Table2.1 Standard equipment

Adaptive torch	Item	Part No.	Qt.	Remarks
MTXCB-3534PZT	Contact tip(0.9)	L7250C02	1	Tip length 45mm
	Nozzle(NO.8)	K970J36	1	Corresponding to tip length 45mm
	Inner liner(0.9-1.2)	L7509B01	1	For wire diameter φ0.9
	Outlet guide(1)	L7581B01	1	

Note) The above equipment is standard specification. In order to accommodate the wide range of the welding by replacing the parts, optional accessories are available.
For details, refer to Chapter 6 “Parts List”.

- Before shipment from DAIHEN
Torch for 350A: The parts for φ0.9 wire are equipped.
Replace each part depending on the wire size to be used.
(See Chapter 6 “Parts List”.)

IMPORTANT

1. Check the wire diameter when replacing each part.
The use of different wire diameters may cause a poor weld.
2. The pull feeding unit (AFPS-4311ZT) is equipped with the parts for the wire diameter φ0.9.
If using the parts of different wire diameter, change the standard part in the pull feeding unit.

3. Installation of Welding Torch and Adjustment

3.1 Installation of Torch (mounting bracket) and Pull Feeding Unit.

The mounting bracket ASSY is in common use with each torch. (Refer to the following table.)

Table3.1 Torch and fixing bracket ASSY

Fixing bracket ASSY		
Assembly Dwg. No.	L bracket Dwg. No.	Remarks
L7752B	L7752B01	

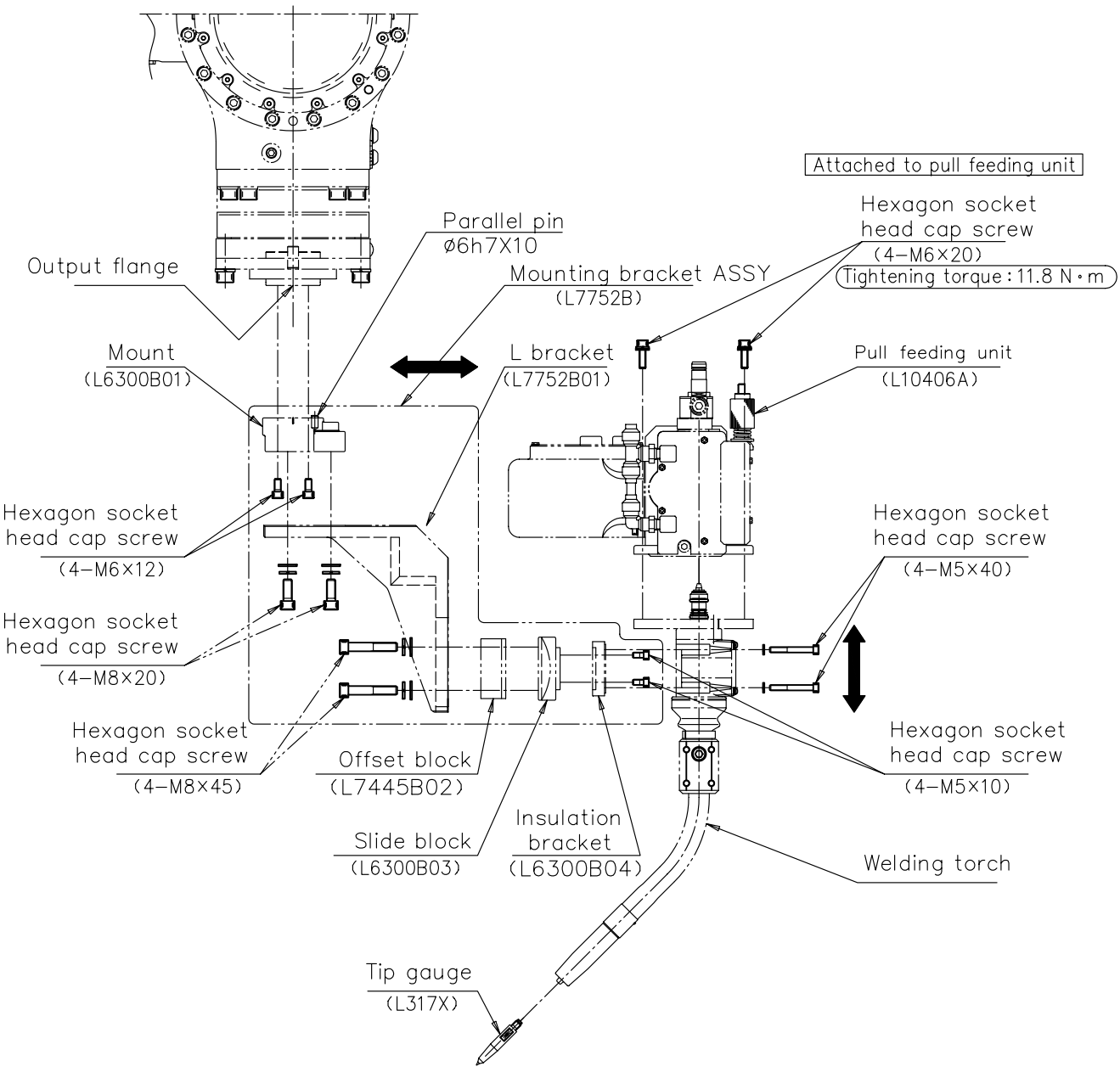


Fig.3.1 Installation of torch (mounting bracket) and pull feeding unit

3.2 Installation of Torch Gauge

The torch gauge ASSY and the tip gauge differ depending on the torch to be used. (Refer to the following table.)

The reference point of the torch gauge (See fig.3.2) is not marked before shipment.

After attaching the torch to the robot and fixing the position of the torch tip, mark the reference point on the torch gauge.

Table3.2 Torch and torch gauge ASSY

Torch gauge ASSY		
Item	Assembly Dwg. No.	Remarks
Torch gauge ASSY	L7752C	

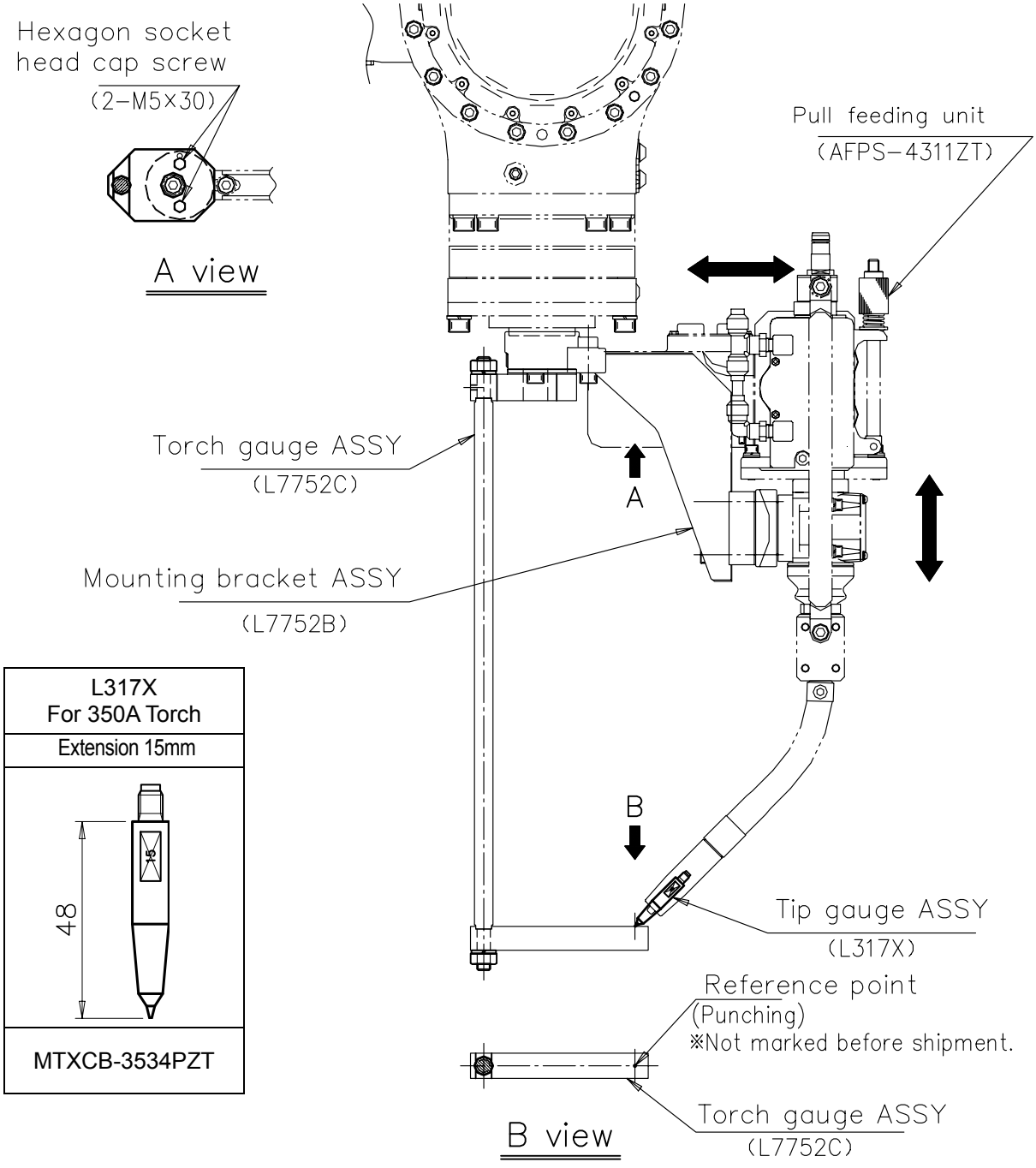


Fig.3.2 Installation of torch gauge

3.3 Adjustment of Torch

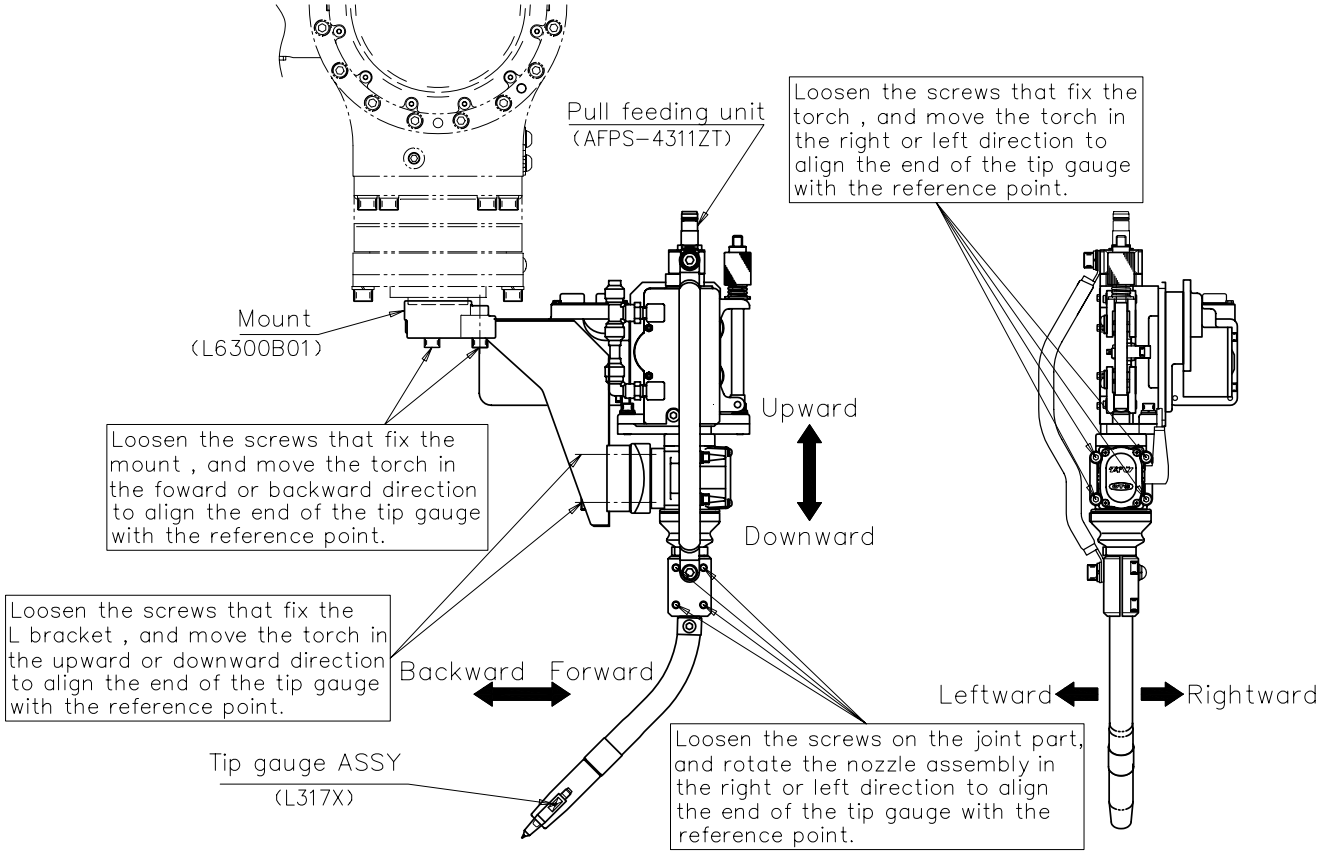


Fig.3.3 Adjustment direction of torch

3.4 External Force for Actuating the Shock Sensor

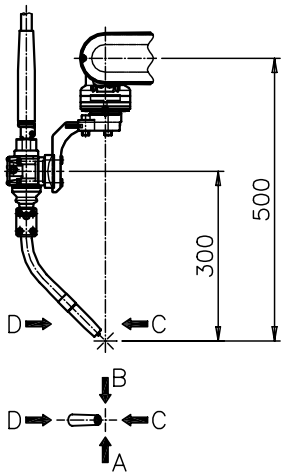


Fig.3.4 Direction of the external force

Table 4.2 External force

Direction	External force (kg)
A	3.0
B	3.0
C	3.0
D	3.0

The left table shows the rough standard load to actuate the shock sensor when the external force is applied on the torch tip.
These values depend on the shape and length of the torch.

4. Troubleshooting

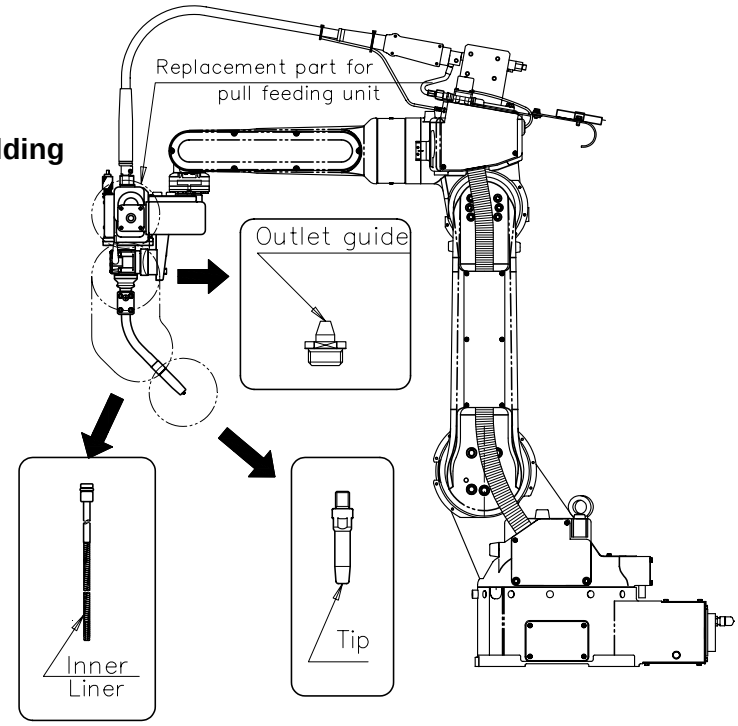
Trouble	Possible cause
No arc is generated.	・Loose connection or break of welding cable.
No smooth wire feeding No constant welding	・Wire pressure on the feed roll is not enough. ・Tip is worn. ・Inner liner is worn. ・Outlet guide is worn. ・Wire chips accumulate in the wire feeding line.
The wire sticks to the tip.	・Wire feeding is not smooth. ・The hole of the tip is widened. ・The distance between the tip and base metal is too short.
Shock sensor can not be canceled.	・Loose connection or break of shock sensor code. ・Nozzle is bent. ※ When the robot is stopped by the shock sensor signal in the contact accident, first investigate the cause of the accident. It is dangerous to operate the robot or to restore the power without known cause. For the release method of the contact, refer to Robot Controller Instruction Manual (OPERATION) (TEACHING).
Aim deviation	・Orifice is not used. ※ If the orifice is not used, spatter accumulates inside and the conduction between the nozzle and the tip body causes anomalous arc discharge and tip body bending.

5. Replacement Part

5.1 Replacement Part for Changing Welding Wire Diameter

Following parts must be changed according to the wire diameter to use.

[Torch]
(1)Tip
(2)Inner liner
(3)Outlet guide
[Coaxial power cable]
(4)Liner
(5)Outlet guide
[Pull feeding unit]
(6)Feed roll
(7)Pressure roll
(8)Inlet guide



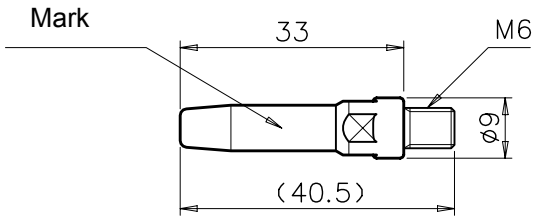
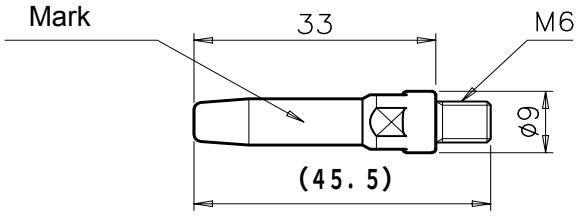
When the welding wire should be changed, use the appropriate parts for each wire diameter. The list below shows the each part.

Fig.5.1 Replacement part for wire diameter change

Note) For the coaxial power cable and the feed roll/ pressure roll /Inlet guide, refer to pull feeding unit Instruction Manual.

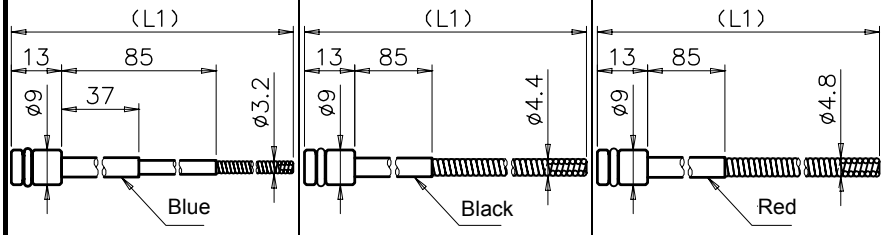
● Standard parts
△ Optional accessories

Table 5.1 Tip combination list

Wire diameter / Torch model	Φ0.8	Φ0.9	Φ1.0	Φ1.2	Φ1.4	Φ1.6
Part number	L7250B01	L7250B02	L7250B03	L7250B04	L7250B05	L7250B06
External view						
MTXCB-3534PZT	△	△	△	△	△	△
Part number	**L7250C01**	**L7250C02**	**L7250C03**	**L7250C04**	**L7250C05**	**L7250C06**
External view						
MTXCB-3534PZT	△	●	△	△	△	△

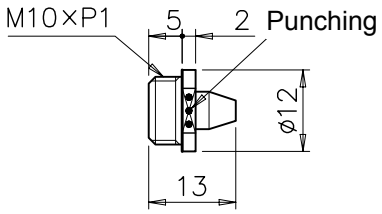
● Standard parts
△ Optional accessories

Table 5.2 Inner liner combination list

Torch model \ Wire diameter	Φ0.6～Φ0.8	Φ0.9～Φ1.2	Φ1.2～Φ1.6
External view			
Part number	L7509B03	L7509B01	L7509B02
MTXCB-3534PZT	△	●	△
L1	L1=150.5mm		

● Standard parts
△ Optional accessories

Table5.3 Outlet guide combination list

Torch model \ Wire diameter	Φ0.8～Φ0.9	Φ1.0～Φ1.2	Φ1.4～Φ1.6
Part number	L7581B01	L7581B02	L7581B03
Punching number	1	2	3
External view			
MTXCB-3534PZT	●	△	△

5.2 Parts change procedure

- Replacement of outlet guide and Inner liner

(1) Remove the screws (M6×20 [2 pieces]) fixed to the torch and the pull feeding unit.
(2) Remove the pull feeding unit from the torch.
(3) Change the outlet guide.
(4) Remove the outlet guide adapter from the torch.
(5) Change the inner liner.
(The inner liner is inserted in the outlet guide adapter.)
(6) Replace them in the order corresponding to the outlet guide adapter, the pull feeding unit and the screws.

IMPORTANT

Do not scratch the surface of “O” ring attached to the outlet guide adapter when fixing the outlet guide adapter and the pull feeding unit to the torch.
The scratched “O” ring can cause a gas leak, which has an effect on weld quality.

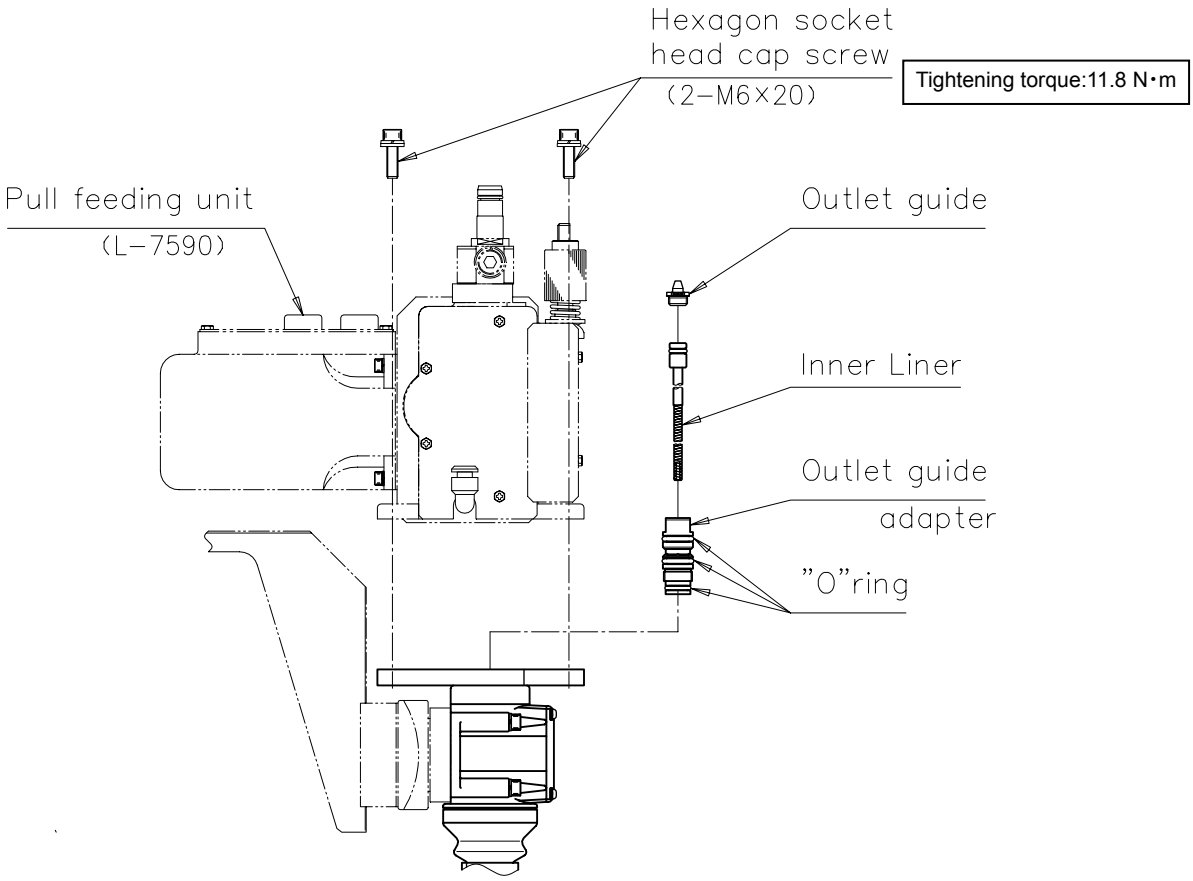


Fig. 5.2 Replacement of outlet guide and Inner liner

5.3 Handling Instructions for Torch

(1) Be sure to install an orifice.
Installation of the orifice is essential, which prevents the short circuit likely to happen between the nozzle and torch body, and also avoids turbulence of the shield gas.

(2) Remove the spatter adhered to the nozzle and contact tip before it gets deposited.

(3) Be sure to use the DAIHEN genuine tip. Use of a worn-out tip with an enlarged diameter causes conduction defect and wire deflection, which results in unstable Arc and aiming deviation. Therefore, replace the tip accordingly before it gets used up.

(4) Gas flow shall be 15 //min or more.

(5) Clean up the inside of liner (included in the coaxial power cable) and of outlet guide with compressed air or others once in 10 days. Otherwise, deposit of sludge and dust will cause defective wire feeding, which leads to poor welding performance.

(6) When the wire is stuck at the tip end, the wire will buckle in the liner or be cut in the feed roll. If keeping wire feed performance under such a condition, feeding failure or Arc shortage may occur. To prevent this, remove the wire between the feed roll and tip end first, and then insert a new wire.

(7) For the teaching program that lets the torch evacuated from the workpiece after welding performance, teach it to pull up the torch obliquely upward so that the shock sensor can work even if the wire sticks on the workpiece.

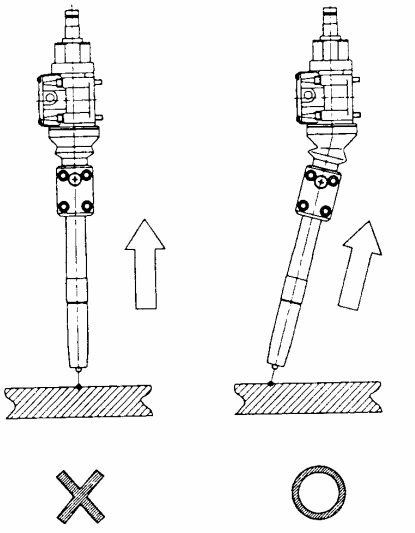


Fig.5.3 Evacuation direction

(8) Shock sensor may deviate from the teaching point (torch aiming point) of the torch edge. (If the shock sensor operates, check the torch aiming point again with the torch gauge.)

6. Parts List

If the parts are worn out or damaged while using this torch, see the following table to place an order with our sales office or agent. Provide the product name and its part No. (or the specifications) for ordering.

IMPORTANT

●Term of supply of this components

The minimum term of supply for this product and the components is for 7 years from the discontinuation date of the product.

Table6.1 MTXCB-3534PZT Parts list

Ref No.	Part number	Item	Q'ty	Remarks
1	L 1 0 3 6 0 D	Shock sensor unit	1	Reinforced spring type
1-1	L 6 3 8 0 G	H o o d A S S Y	1	
2	L 1 0 4 2 9 B	Nozzle holder ASSY	1	
3	L 7 5 8 1 B	A d a p t e r A S S Y	1	
3-1	L 7 4 7 9 B 0 2	Outlet guide adapter	1	
3-2	3 5 7 4 - 0 0 7	O - r i n g	1	P12(Viton)
3-3	3 5 7 4 - 0 1 7	O - r i n g	1	P10(Viton)
4	L 6 5 8 7 D	N o z z l e A S S Y	1	
4-1	3 5 7 4 - 0 0 7	O - r i n g	1	P12(Viton)
5	L 7 5 8 5 C	Power-feeding cable ASSY	1	
6	L 6 5 8 6 C 0 1	T i p b o d y	1	
7	U 6 0 8 T	I n s u l a t o r	1	
8	L 6 3 8 0 F 0 1	Spring washer	1	
9	U 4 1 6 7 G 0 2	O r i f i c e	1	
10	K 9 7 0 J 3 6	Nozzle (NO .8)	1	Corresponding to 45mmTip
11	L 6 3 8 0 F 0 4	Nozzle (NO .7)	1	
12	L 1 0 4 2 9 E	Assembly parts (0.8)	1	Optional accessories for wire diameter Φ0.8
12-1	L 7 2 5 0 C 0 1	Contact tip (0.8)	1	
12-2	L 7 5 0 9 B 0 3	Inner liner (0.6-0.9)	1	
12-3	L 7 5 8 1 B 0 1	Outlet guide A (1)	1	
13	L 1 0 4 2 9 F	Assembly parts (0.9)	1	Standard assembly parts for wire diameter Φ0.9
13-1	L 7 2 5 0 C 0 2	Contact tip (0.9)	1	
13-2	L 7 5 0 9 B 0 1	Inner liner (0.9-1.2)	1	
12-3	L 7 5 8 1 B 0 1	Outlet guide (1)	1	
14	L 1 0 4 2 9 G	Assembly parts (1.0)	1	Optional accessories for wire diameter Φ1.0
14-1	L 7 2 5 0 C 0 3	Contact tip (1.0)	1	
13-2	L 7 5 0 9 B 0 1	Inner liner (0.9-1.2)	1	
14-3	L 7 5 8 1 B 0 2	Outlet guide (2)	1	
15	L 1 0 4 2 9 H	Assembly parts (1.2)	1	Optional accessories for wire diameter Φ1.2
15-1	L 7 2 5 0 C 0 4	Contact tip (1.2)	1	
13-2	L 7 5 0 9 B 0 1	Inner liner (0.9-1.2)	1	
14-3	L 7 5 8 1 B 0 2	Outlet guide (2)	1	
16	L 1 0 4 2 9 J	Assembly parts (1.4)	1	Optional accessories for wire diameter Φ1.4
16-1	L 7 2 5 0 C 0 5	Contact tip (1.4)	1	
16-2	L 7 5 0 9 B 0 2	Inner liner (1.2-1.6)	1	
16-3	L 7 5 8 1 B 0 3	Outlet guide (3)	1	
17	L 1 0 4 2 9 K	Assembly parts (1.6)	1	Optional accessories for wire diameter Φ1.6
17-1	L 7 2 5 0 C 0 6	Contact tip (1.6)	1	
16-2	L 7 5 0 9 B 0 2	Inner liner (1.2-1.6)	1	
16-3	L 7 5 8 1 B 0 3	Outlet guide A (3)	1	

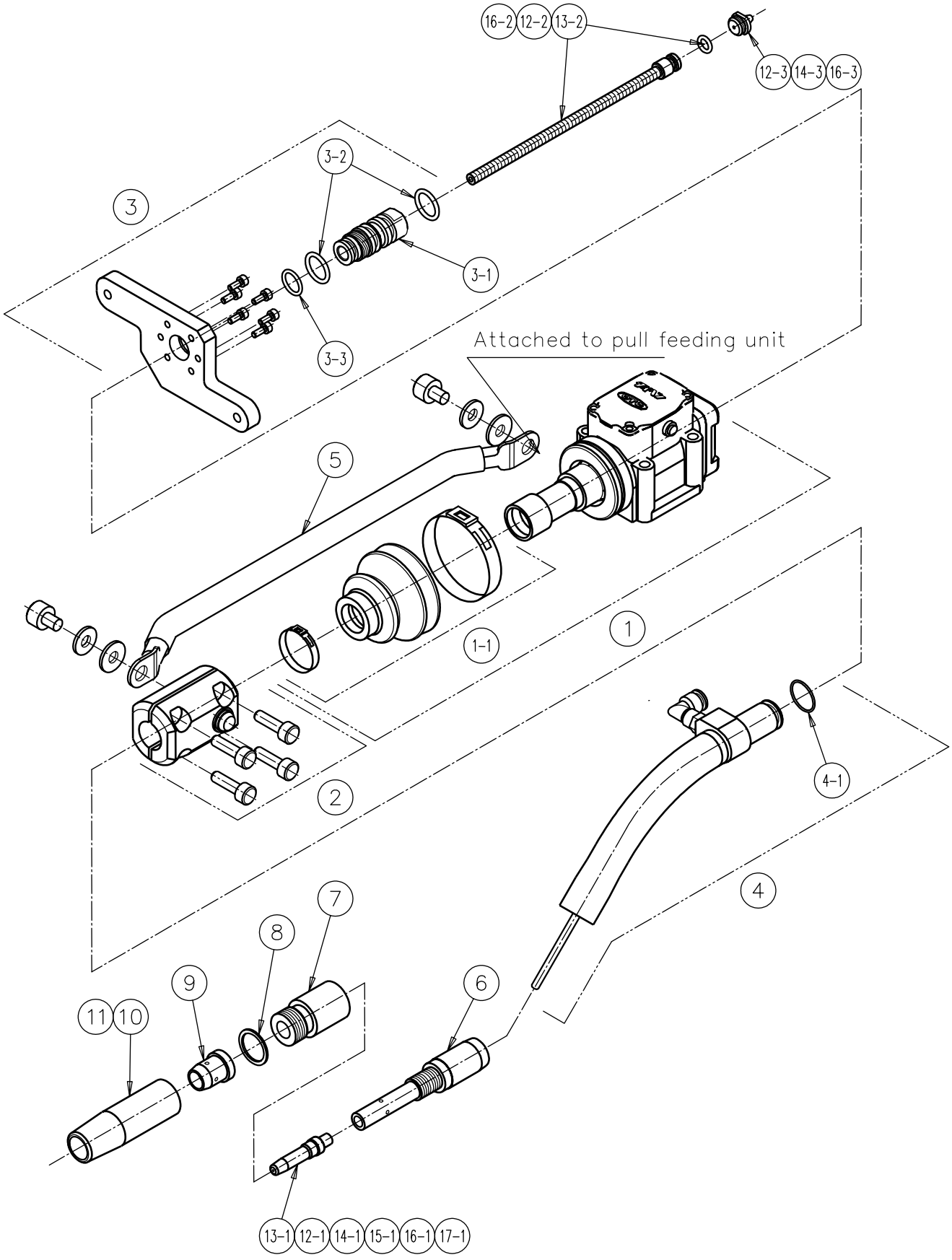


Fig 6.1 Exploded diagram for MTXCB-3534PZT

Instruction Manual for CO_2/MAG Welding Torch [MTXCB-3534PZT]

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ITEMS OF MAIN PRODUCTS

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- DC ARC WELDING MACHINES
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- MAG ARC WELDING MACHINES
- MIG ARC WELDING MACHINES
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