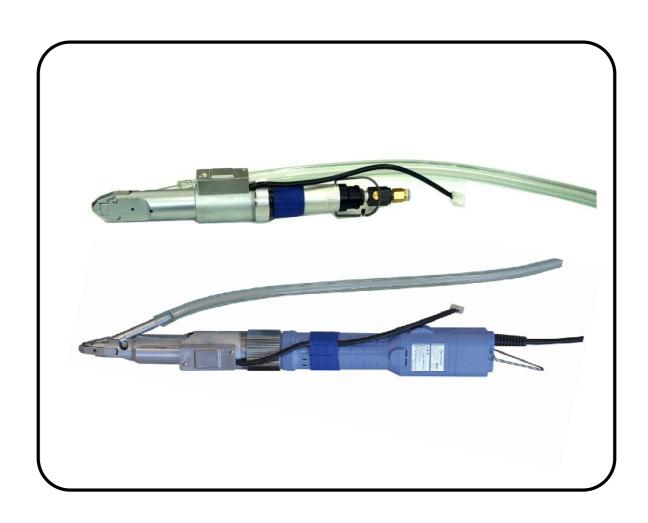
## **FUJITEC**

# INSTRUCTION MANUAL VIS SETTER Handy

Tool Attachment
Air Screwdriver
Electric Screwdriver



Our sincere thanks for your purchase of this Fujitec VIS-SETTER Handy tool attachment (air screwdriver, electric screwdriver).

- •To ensure safe operation, please read this instruction manual carefully before use.
- Also be sure to always read the "Safety Precautions" before attempting use.
- Keep this instruction manual in a secure location and consult it if unclear about machine handling, operation or maintenance.

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## 1. Safety precautions (Always follow the instructions below

To ensure correct operation, always read these "Safety precautions" before attempting to use

The following cautionary points are "Warnings" and "Cautions" intended to prevent unforeseen accidents that are a hazard to the operator and others around him as well as causes of material damage or loss.

These contain important information for maintaining safety, so comply with them at all times.

■ The following cautionary notes are grouped according to the hazard level in terms of injury and material damage that may occur if not used correctly.

WARNING	indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury or damage to the equipment.

■ Points you should comply with are grouped according to the following symbols. (The following are examples.)

<u>^</u>	This symbol indicates a caution or warning you must heed.
$\Diamond$	This symbol indicates a prohibited action.



#### Do not alter or modify any part of this unit.

Only authorized repair personnel are allowed to disassemble or repair this unit.

Attempting this on your own may cause fire, electrical shock, or injury.

Note: Consult your dealer if repairs are needed.

#### Do not damage the power cord or plug.

Do not forcefully bend, pull, twist, or bundle the cord.

Do not lay heavy objects on it or allow pinching or crushing. Neglecting this may cause injury, fire or electrical shock.



### Do not use if the power cord or plug is worn or damaged or the plug is loosely inserted in the socket.

Neglecting this point may cause electrical shock or fire.

#### Do not use a power source that is not 100 V AC.

Neglecting this may cause electrical shock or fire.

#### Do not handle the power cord roughly.

Do not carry the electric screwdriver while holding the power cord or pull on the power cord to extract the plug from the socket.

Keep the power cord away from locations with heat, oil or sharp corners.

#### • Keep the screwdriver tip away from yourself and other persons.

Do not let moving parts such as the tool bit come near hands or fingers, etc.

#### Do not point the screwdriver tip at other persons.

Feeding screws while the screwdriver is aimed at other persons may be hazardous if the screws fly outwards.



#### Ground the power supply securely.

This unit is a brushless electric screwdriver designed to prevent static electricity emission. Make sure the ground on the power cord is always connected to ground potential.





#### Do not use near moist or water spray locations.

Equipment breakdowns may occur if used in locations exposed to moisture or water spray, extremely low or high temperatures, or high humidity.

#### Don't leave the unit unattended while it is still rotating or operating.

Leaving the unit unattended on the stand or floor while it is still rotating may cause injury.

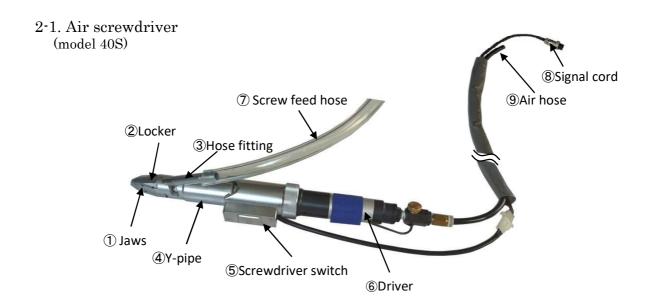
#### Do not use with the motor still locked.

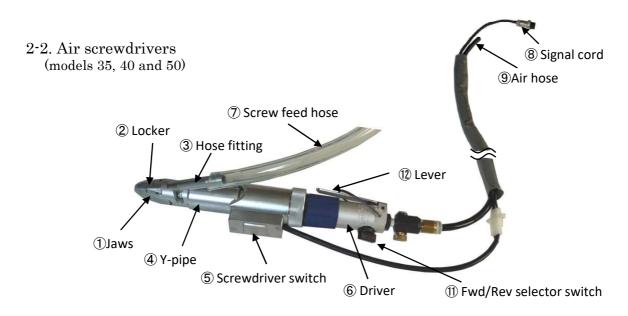
Do not use with the motor locked or with an excessive load that prevents the clutch from functioning normally. Failure to observe this point may cause smoke, sparks, breakdowns or injury.

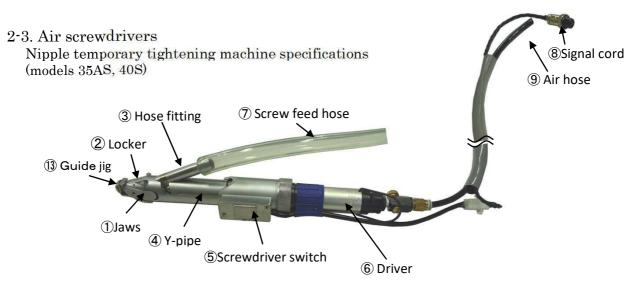
#### Do not use under abnormal conditions.

If the unit heats up excessively during use or you notice an abnormal condition, then immediately stop operating it and service it to correct the problem. Failure to do so could cause breakdown or injury.

#### 2. Part names and functions

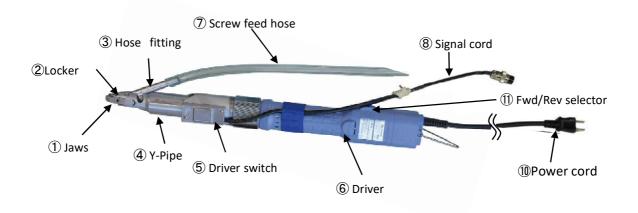






#### 2-3. Electric screwdriver

#### (DLV series)



#### (1) Jaws

These securely grip the pressure-fed screws.

#### 2 Locker

The locker prevents the screw held in the jaws from retracting and makes it easy to align the screw with the screw hole center.

#### 3 Hose fitting

This joins the Y-pipe to the screw feed hose.

#### 4 Y-pipe

Slides to the tip of the driver, and attaches to jaws, locker, and hose fitting.

#### **⑤** Driver switch

Sends a screw feed signal when the Y-pipe is cocked (extended/contracted).

#### 6 Driver

This is a screw-tightening driver and may by air-driven or electrically-driven.

#### (7) Screw feed hose

The screw feed hose extends from the VIS SETTER feeder.

#### 8 Signal cord

This is a cable with plug (3-pin plug) for sending the screw feed signal from the driver switch to the VIS SETTER Feeder.

#### Air hose

This hose supplies compressed air for feeding the screws when using the air screwdriver.

#### 10 Power cord

This is a power cable that supplied power when using the electric screwdriver.

#### ① Fwd/Rev selector switch

Switch for selecting the forward or reverse direction.

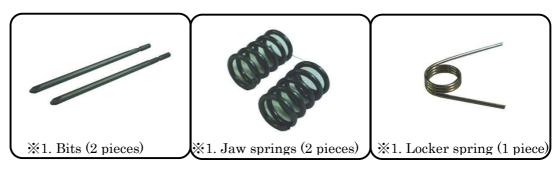
#### 12 Lever

This is a drive switch for the air screwdriver.

#### (13) Guide jig

The positioning jig of various nipples.

#### 3. Accessories



**※**1. Differs depending on screw specifications.

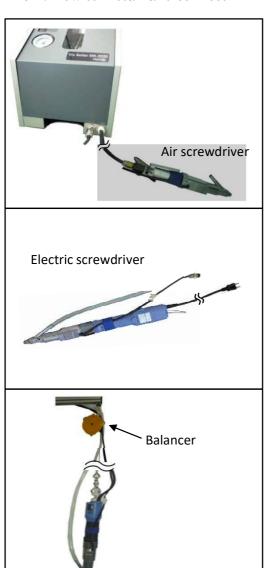
[Note 1] In the case of the screwdriver unit only, there are no accessory parts other than the bit.

#### 4. Points to check before using

- 1) Do not use any screws that are not shown in the mechanical specifications.
- 2) Do not point the screwdriver tip at other persons. Screws may fly outward causing a hazardous situation.
- 3) Use a bit that matches the screw head.
- 4) Do not drastically bend or twist the screw feed hose.
- 5) See the instruction manual supplied with the feeder if you need information on handling the feeder.

#### 5. Pre-operating setup

#### 5-1. How to install and connect

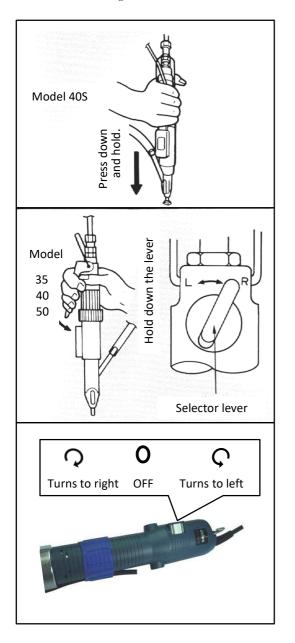


- ① Connect the screw feed hose and signal cord to the feeder.
- ② If using the air screwdriver (Models 40S, 35, 40 or 50), then connect the air hose set to the feeder.

③ If using the electric screwdriver (Models DLV7000 or 8000), then connect power supply cord to a power supply outlet.

- ④ Use items such as a balancer on the screwdriver unit to make the screw tightening task easier. Be careful not to let the signal cord or air hose come in contact with the balance wire or hoist ring on the screwdriver unit. Take special care not to drastically bend or twist them.
- ⑤Take special care not to drastically bend the screw feed hose in order to keep it the shortest possible distance from the screwdriver unit.

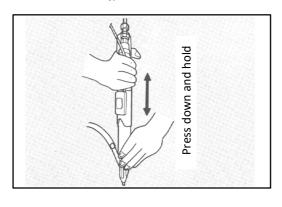
#### 5-2. Checking the screwdriver rotation



- ① Air screwdriver model 40S
  Hold the screwdriver bit pressed down onto a flat surface
  with the Y-pipe depressed as shown to make the
  screwdriver rotate. Check that there are no abnormal
  rotation sounds. The model 40S only rotates to the right.
- ② Air screwdriver models 35, 40 and 50
  Hold down the lever on the screwdriver to make it rotate.
  Check that there are no abnormal rotation sounds. Set the selector lever on the rear of the screwdriver to
  (R) for forward rotation, or to (L) for reverse rotation.

(DLV) push-type electric screwdriver
Set the forward-reverse selector on the rear of the driver
to (\(\omega\)) for forward rotation or to (\(\omega\)) for reverse rotation.
Hold the screwdriver with the bit point pressed into a flat
surface and the Y-pipe depressed as shown to make the
screwdriver rotate. Check that there are no abnormal
rotation sounds. Gripping the lever make lever type
screwdrivers rotate.

5-3. Checking the screw feed

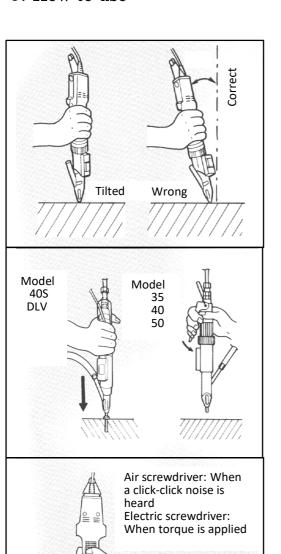


Do not point the screwdriver tip at other persons. Screws may fly outward causing a hazardous situation.

- ① Load the screws into the feeder and set the feeder power switch to ON. (See the feeder instruction manual)
- ② Grip the driver and depress/release the Y-pipe (plunger action) as shown.

  One press-retract on the Y-pipe sends one screw feed signal from the driver switch, making the feeder send just one pressure-fed screw. Check that the jaw securely grips the screw. Adjust the feeder if the screw is not protruding outwards enough or flies outward. (See the feeder instruction manual)

#### 6. How to use



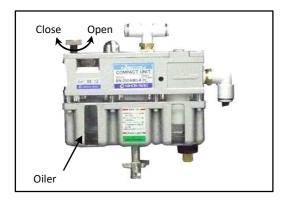
- ① Line up the screw gripped in tip of driver jaws with the screw hole on item to be secured with screws.
- ② Place the screwdriver against and perpendicular to the surface with the screw holes. Make sure the screw feed hose does not become twisted
- ③ When using the Model 40S or DLV driver
  Pressing the screwdriver against the screw starts the
  screw-tightening. On the Models 35, 40 and 50, holding
  down the lever starts the screw-tightening.

- 4 After reaching a preset torque when finished screwtightening, the clutch on the electric driver (DLV model) releases causing the motor to stop. If the motor stays locked because the clutch does not release (operator's hand keeps applying torque to driver), then quickly pull the driver away from the screw. On air screwdrivers (Model 40S, 35, 40 and 50), check for the sound the clutch makes when it releases and then raise the screwdriver upward.
- ⑤ Check the tightening torque. If outside the specified range, adjust it as described on pages 18 and 19.

#### 7. Maintenance and storage

Always turn off the power switch before servicing or cleaning the unit. Remove the power cord from the outlet (socket) if not planning to use it for a long time.

#### 7-1. Maintenance after daily work

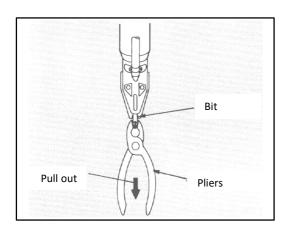


① Oil filling (only when using air screwdrivers)

After finished filling the oil, loosen the needle valve on the oiler unit on the feeder and check from the drip window that 3 to 5 drops of oil fall while rotating the screwdriver under no load. Then let the screwdriver keep rotating for 1 to 2 minutes with no load (no screw in tip).

(Screwdriver performance will deteriorate without oil refills, so be sure to perform this task.)

#### 7-2. Replacing the bit

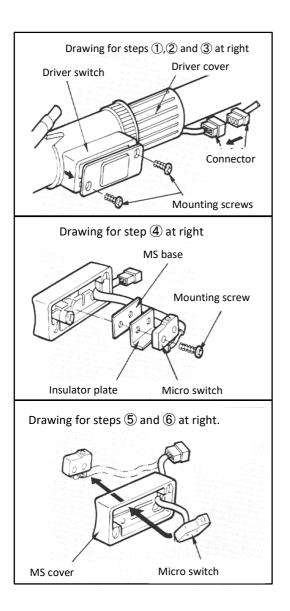


- ① Continuing to use a worn bit will cause inadequate torque and will damage the screw head. Make sure the bit is in good condition before using it.
- ② To replace the bit on Model 40S, 35, 40 and 50 air screwdrivers, depress the Y-pipe, grip the tip of the bit protruding from the jaws with pliers, and remove it. Then insert a new bit and press it gently into the jaws.
- ③ On electric screwdrivers (DLV), loosen the adjuster nut from the Y-pipe, and remove the Y-pipe. (See pages 19, 20 and 21 for more information.)

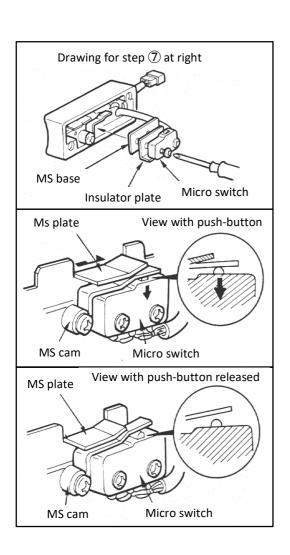
#### 7-3. Replacing the driver switch

Be fully aware of the following points when handling the driver switch to ensure correct care is taken.

- Always turn off the power and shut off the air source before attempting to replace the driver switch.
- Always grip the connector by hand when connecting or removing it. Do not pull on the signal cord.
- •The drive switch contains small components, so be careful not to lose them. (Be especially careful with the key)



- 1 Detach the signal cord connectors.
- 2 Loosen the two mounting screws on the driver.
- ③ On air screwdrivers, the driver cover (rubber cover) is inserted into the driver's main body. The signal cord is routed through here, so coat a small amount of silicon grease on the inner side of the driver cover to make it more slippery and carefully extract the signal cord via the rear edge of the driver.
- 4 Loosen the two mounting screws and remove the micro switch, insulator plate, and the Ms base.
- ⑤ Extract the micro switch set from the notch on the Ms cover.
- **(6)** Insert the new micro switch set from the notch in the Ms cover as shown.



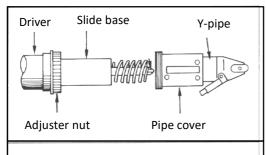
- The Ms plate shall slide smoothly and the Ms cam shall swivel smoothly.
- Sliding the metal plate to the signal cord side presses the micro switch button, causing its contacts to turns ON (making a click sound). The push-button still allows ample movement margin if the plate is slid all the way to the signal cord side.
- Next, sliding the MS plate to the opposite side opens the micro switch contacts to turn OFF. There is a gap between the push-button and Ms cam when the plate is moved from the farthest point on the signal cord side, to the opposite side.
- ⑦ After checking operation, be sure not to tighten too strongly because the micro switch case is made out of plastic. (Coat with anti-loosening Loctite or similar product to make it even more secure.) The tightening torque is approximately 0.3N • m.
- 8 Reassemble in the reverse order of the above sequence.

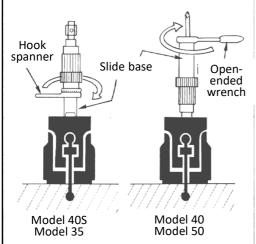
#### 7-4. Replacing the brush

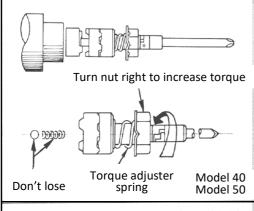


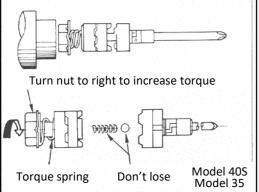
① Always remove the power cord from the outlet (socket) before replacing the brush. Remove the brush cap with a flat-bladed screwdriver and replace it with a new brush. The minus (—) side of the brush wears out more than the plus (+) side. Replace with a new brush before the brush length falls to 5mm or less.

#### 7-5. Adjust the tightening torque



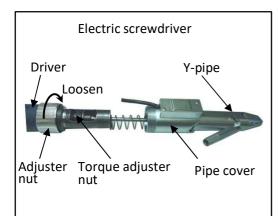


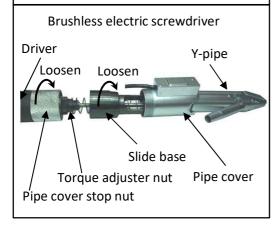




#### 1. Air screwdriver

- ① Loosen the adjuster nut, and release the pipe cover and the Y-pipe. Disassemble as shown in the figure at left.
- ② When using Model 40S or Model 35 Clamp the flat side of the slide base in a vise, and take off the driver unit using a hook spanner (wrench) as shown at left.
  - When using Model 40 or Model 50 Clamp the driver unit in a vise, loosen the flat side of the slide base with a wrench (spanner) and take off the slide hase
- Take care not to damage or scratch the slide base. Turn to the right to loosen.
- 3 After removing the slide base, take out the clutch as one piece. Apply grease to the clutch section when reassembling.
- Turning the nut raises or lowers the compression force on the torque spring. Increasing the compression force raises the screw tightening torque and decreasing the compression force, lowers the torque. If you cannot obtain sufficient torque from this torque spring, then please consult your dealer for assistance.
- (5) After finishing the above adjustments, reassemble in the reverse order of the above sequence while being careful not to let external debris or dust penetrate inside.



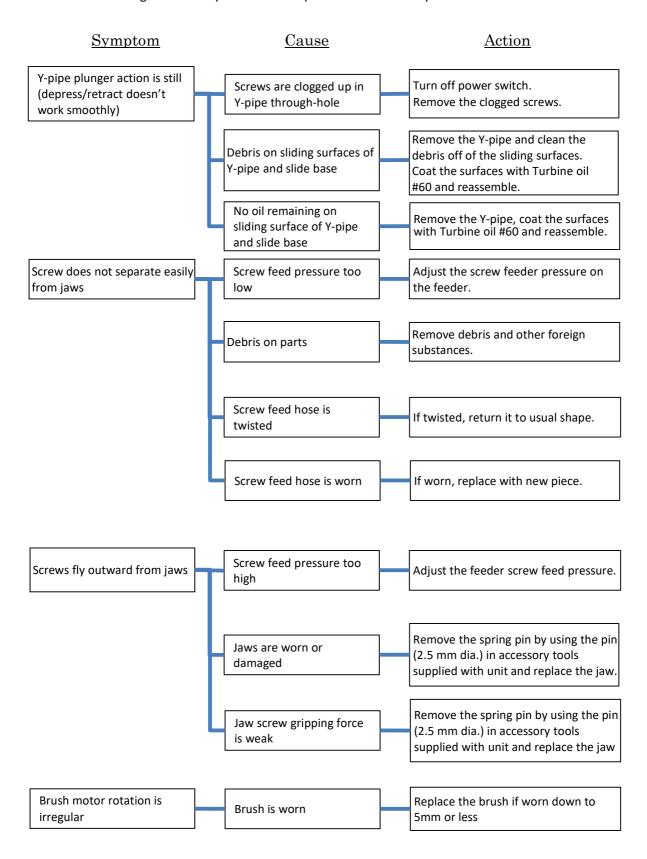


#### 2. Electric screwdriver Model DLV

- ① Loosen the adjuster nut and release the pipe cover and Y-pipe as shown.
- ② While disassembled as shown at left, tightening (to the right) the torque adjuster nut increases the torque, while loosening the adjuster nut reduces the torque. (See pages 19, 20 and 21 for more information.)
- 3 When using the brushless electric screwdriver Adjustment is the same as above except the torque adjuster nut is accessed by turning the slide base to the right to release it, and then adjusting the torque with the torque nut.

#### 8. Troubleshooting

If problems should occur, then use the following chart to find and eliminate it. Consult your dealer if the following troubleshooting chart does not correct the problem. Inadequate or incomplete troubleshooting will not only hurt machine performance but may also create hazardous situations.



#### 9. Specifications

#### 9-1. Air screwdriver

Туре	Model	40S	35	40	50
Output torque	N∙m	0. 5~1. 5	0. 5~1. 5	1. 0~2. 5	1. 5~3. 0
No load rotation speed	r•p•m	2, 300	2, 000	1, 400	1, 400
Start method		Push-start type	Lever-start type	Lever-start type	Lever-start type
Torque control method		Cushion clutch	Cushion clutch	Cushion clutch	Cushion clutch
Driver dimensions	mm	Approx. 300	Approx. 280	Approx. 310	Approx. 335
Driver mass	kg	Approx. 1.0	Approx. 1.0	Approx. 1.4	Approx. 1.8
Air pressure	Мра	0.4~0.5	0.4~0.5	0.4~0.5	0.4~0.5

#### 9-2. Electric screwdriver

Model Type		
Output torque N•m		
No load rotation speed r•p•m		
Start method		
Torque control method		
Driver dimensions mm		
Driver mass kg		
Power VA consumption		

Table data shown above may sometimes vary according to specifications.

※ Electric screwdrivers: There are many types (model names) of screwdrivers, so we will write down the specifications for the model that will be shipped to you. (Consult the delvo manual for items and specifications that are not shown above.)

#### 10. Service

#### 1. Requesting repairs

Before requesting a repair, inspect the unit again while referring to the pages containing the "Troubleshooting" information.

If the steps listed there do not solve the problem, then consult the dealer where you purchased the unit.

#### [Information we need from you]

Customer name, address, telephone No. , product (model) name, product (model) No. , production No. , and date of purchase

Description of breakdown or abnormal condition

#### 2. After-service

If you still have any questions, then please inquire at the dealer where you purchased the unit.

#### 3. Repair parts

Please see the attached parts list if requesting repair/service parts

#### 4. NOTES

Air screwdriver

Nipple temporary tightening machine specifications

"Guide jig" supplied with a nipple temporary tightening machine

Warranty does not cover "dedicated guide jigs" other than standard guide jigs #6 to #12.

\*Warranty will be void if used with a guide jig that was manufactured to dimensions not meeting the standards.

i<sup>1</sup>-------

#### 11. Appended tables

#### 11-1. Electric screwdriver series (DLV7100/7200/8100/8200 series)

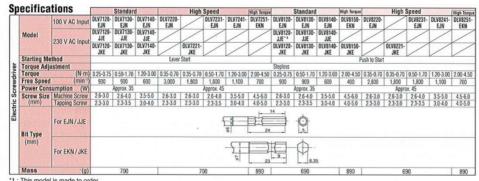
• Brushless electric screwdriver (2.6 to 6 mm) for small screws

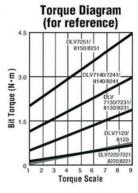


#### **Features**

#### Long Time Selling, Reliable and High Performance

- Transformerless space saving model built in automatic stop circuit.
- Combination of unique clutch mechanism and automatic stop circuit maintains high repetitive torque accuracy.
- The lever start type DLV7100 / 7200 series is suited for temporarily tightening screws and tightening screws set at angles.
- The DLV8100 / 8200 series is push to start type for continuous screw tightening.
- The high speed type DLV7200 / 8200 series enhances working efficiency.
- The high torque type DLV7251 / 8150 / 8251 series is equipped with a grip, which is useful for tightening big screws like 6 mm machine screws.

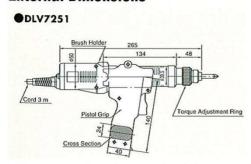


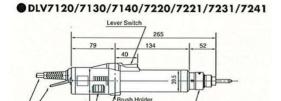


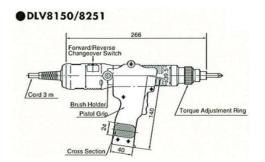
\*1 : This model is made to order.
\*2 : Bit Shank; "- □ J □ "=Hex.5 mm, "- □ K □ "=Hex.6.35 mm

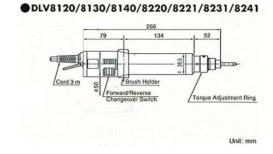
**Torque Diagram** 

#### **External Dimensions**



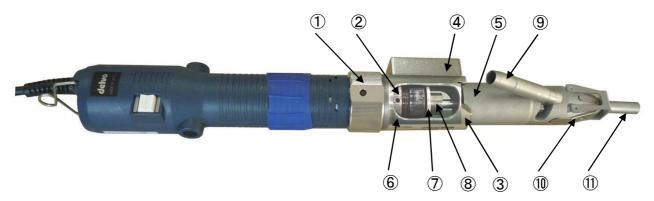






#### 11-2. Tool part names and handling methods

- ●DLV8120/8130/8140/8220/8231/8241
- ●DLV7120/7130/7140/7220/7231/7241



- 1 Y-pipe adjuster nut
- 2 Torque adjuster nut
- ③ Pipe cover
- 4 Driver switch
- ⑤ Y-pipe unit set
- (6) Slide base

- **7**Stopper
- 8 Bit holder
- 9 Hose fitting
- 10 Jaws
- 1 Pipe jig (option)

Torque value when shipped ( N·m)

#### 1) Torque adjust method

- 1 Loosen the Y-pipe adjuster nut, 3 and remove the pipe cover.
- 2 Turn the adjuster nut as needed

The escape slot on the slide base ⑥ might be too small to allow rotating the adjuster nut to the maximum torque. In that case, align the holes of the Y-pipe adjuster nut ① with the set screws at 4 points on the slide base ⑥ of the screwdriver unit, loosen the set screws and release the slide base ⑥.

(The escape slot range is limited in order to maintain the strength of the slide base.)

#### **CAUTION:**

Parts used in Delvo screwdrivers are subject to certain limits.

There are no torque scale marks on the adjuster nut and driver (clutch case).

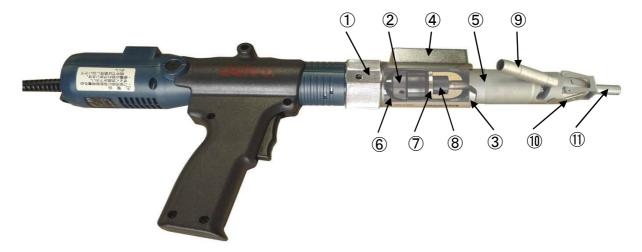
So specify the required torque when placing an order and your unit will be set to your specified torque prior to shipping.

If you do not specify a torque value, then your unit will be set to the typical torque for the screws being used. That value is shown in the torque setting like that shown on this page.

#### 2) Bit replacement method

First release the pipe cover ③ the same as when adjusting the torque, then depress the bit holder ⑧ through the escape slot of the slide base ⑥ to pull out the old bit, and replace with a new one.

#### ●DLV8251/7251



- 1 Y-pipe adjuster nut
- 2 Torque adjuster nut
- 3 Pipe cover
- 4 Driver switch
- ⑤ Y-pipe unit set
- (6) Slide base

- **7**Stopper
- 8 Bit holder
- 9 Hose fitting
- (10) Jaws
- 1 Pipe jig (option)

Torque value when shipped ( N·m)

#### 1) Torque adjust method

- ① Loosen the Y-pipe adjuster nut, ③ and remove the pipe cover.
- 2 Turn the adjuster nut as needed

The escape slot on the slide base ⑥ might be too small to allow rotating the adjuster nut to the maximum torque. In that case, align the holes of the Y-pipe adjuster nut ① with the set screws at 4 points on the slide base ⑥ of the screwdriver unit, loosen the set screws and release the slide base ⑥.

(The escape slot range is limited in order to maintain the strength of the slide base.)

#### **CAUTION:**

Parts used in Delvo screwdrivers are subject to certain limits.

There are no torque scale marks on the adjuster nut and driver (clutch case).

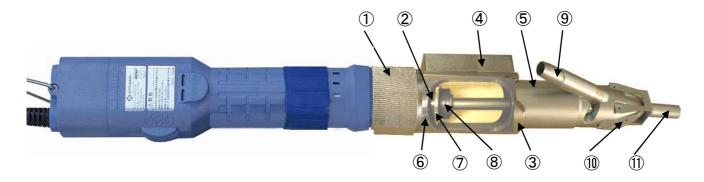
So specify the required torque when placing an order and your unit will be set to your pecified torque prior to shipping.

If you do not specify a torque value, then your unit will be set to the typical torque for the screws being used. That value is shown in the torque setting like that shown on this page.

#### 2) Bit replacement method

First release the pipe cover ③ the same as when adjusting the torque, then depress the bit holder ⑧ through the escape slot of the slide base ⑥ to pull out the old bit, and replace with a new one.

#### ●DLV30SP/30HP



- 1 Y-pipe adjuster nut
- 2 Torque adjuster nut
- 3 Pipe cover
- 4 Driver switch
- **5** Y-pipe unit set
- 6 Slide base

- **7**Stopper
- 8 Bit holder
- 9 Hose fitting
- 10 Jaws
- 1 Pipe jig (option)

Torque value when shipped ( N·m)

#### 1) Torque adjust method

①Loosen the Y-pipe adjuster nut, and release the pipe cover ③. Release the slide base ⑥. Loosen in the clockwise direction. (left-handed threads) Turn the torque adjuster nut ② as needed.

#### **CAUTION:**

Parts used in Delvo screwdrivers are subject to certain limits.

There are no torque scale marks on the adjuster nut and driver (clutch case).

So specify the required torque when placing an order and your unit will be set to your specified torque prior to shipping.

If you do not specify a torque value then your unit will be set to the typical torque for the screws being used. That value is shown in the torque setting like that shown on this page.

#### 2) Bit replacement method

First release the pipe cover ③ the same as when adjusting the torque.

Then pull the bit holder **8** to pull out the bit, and replace it with a new one.

Part No.				
Date of		Yr.	Mo.	Dy.
Dealer where purchased	Telephone (	)	_	

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