

TRITORC

B O L T O N T R U S T

INSTRUCTION MANUAL

ELECTRIC SHEAR WRENCH

Instruction manual apply to the following models:

SL-16

SL-20

SL-22

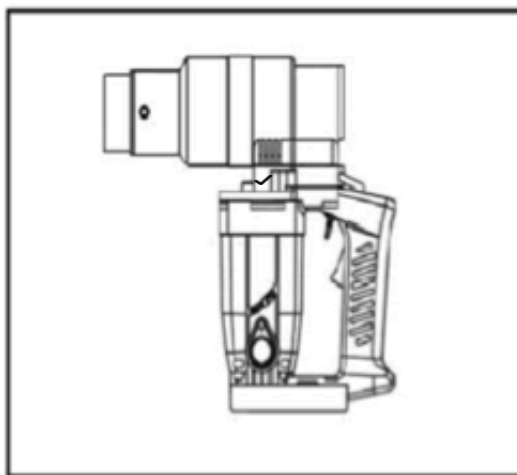
SL-24

SL-27

SL-30

SL-33

SL-36



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PREFACE

This instruction manual is provided for whom obtained
"SHEAR WRENCH"

Read through this instruction manual carefully.

* In order to prevent failure or personal injury, operate wrench
after full understanding of the manual.

**If the manual or warning label is lost or becomes
illegible, You could ask help from your distributor.**

* Ask your distributor for anything unclear with the wrench or
the contents of this instruction manual

CAUTION MARKS

Definitions of risk degrees of:

 **DANGER**

 **WARNING**

 **CAUTION**


Cautions for use are defined by the degree of risk and classified
as follows:

 **DANGER**

Danger is aroused as the wrong use
might imminently cause danger of
personal injury or death in the worst
case.

 **WARNING**

Warning is aroused as the wrong
use might possibly cause danger
of personal injury or death in worst
occasion.

Even if the risk is defined by,  **WARNING** the wrong use might
cause more serious result depending on surrounding conditions.
All two(2) caution marks imply important contents to secure
safety hence carefull observation is recommended.

CONTENTS GUIDE

1.	SAFETY INSTRUCTIONS	5
2.	PACKING	7
3.	EXTERNAL DIMENSION	8
4.	SPECIFICATIONS	9
5.	APPLICATION OF SHEAR WRENCH	10
6.	CAUTIONS FOR USING	10
7.	OPERATION METHODS	13
8.	SOCKETS CHANGING METHOD	14
9.	MAINTENANCE AND INSPECTION	16
10.	OPTION	18
11.	SERVICES	18

1. SAFETY INSTRUCTIONS

WARNING

When using electric tools, basic safety precautions, including the following should always be followed to reduce the risk of fire, electric shock and personal injury.
Read all these instructions before operating this product and keep these instructions.

To Work Safely, you Had Better Pay Much Attention To Below :

1) Make sure cleaning working area

Cluttered areas and benches invite injuries.

2) Much attention to work area environment.

Do not expose the shear wrench to rain. Do not use shear wrench in damp or wet, snowing locations. Keep work area well lit. Do not use shear wrench where might cause fire or explosion.

3) Guard against electric shock.

Keep away with earthed or grounded surface.

4) Keep children and visitors away.

Do not let children and visitors touch the shear wrench or extension cord. All visitors should keep away from work area.

5) Store idle shear wrenches

When not in use, shear wrenches should be stored in a dry, high or locked up place, out of reach of children.

6) The proper use of wrench belts

During the working, keep the hook and ring well connect, do not tie onto the handle, make sure the motor can not touch the belt.

7) Dress properly

Do not wear loose clothing or jewellery, they can be caught in moving parts. Rubber gloves and non-skid footwear are

recommended when working outdoors, wear protecting head covering to contain long hair.

8) Use safety glasses and ear defenders.

9) Use cord correctly

Never carry the shear wrench by the cord or yank it to disconnect it from the socket. Keep the cord away from heat, oil, water and sharp edge.

10) Maintain carefull

Keep clean for better and safer performance. Follow instructions for lubrication and changing accessories. Inspect shear wrench cord periodically and if damaged have it repaired by an authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean and free from oil and grease.

11) Disconnect shear wrench

When not in use, before servicing and when changing accessories like carbon brush. Keep the wrench off the electricity

12) Using outdoor extension cords

When the shear wrench used outdoor, use the same specification extension cords on length and cable cross area size.

13) Check damaged parts:

Before further use of shear wrench, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts. Free runing of moveing parts, breakage of parts, mounting and any other conditions that may affect its operation. A gurad or other part that is damaged should be properly repaired or replaced by an authorized service center otherwise indicated in this instruction manual. Have defective switches replaced by an authorized service facility. Do not use the shear wrench if the switch does not turn on and off.

14) WARNING!

The use of any acessory or attachment, other than those recommended in this instruction manual, may present a risk

of personal injury or shear wrench damaged

15) Have your tool repaired by a qualified person.

This electric tool is in accordance with the relevant safety requirements repairs should only be carried out by qualified person using genuine spare parts, otherwise this may result inconsiderable damage to the user and the shear wrench.

2. PACKING

1) Main body

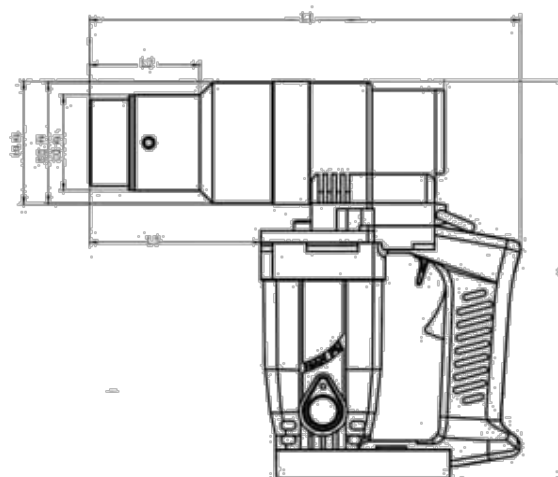
2) Inner and outer sockets

3) Little spanner

4) Instruction manual

5) Metal or plastic case

3. EXTERNAL DIMENSION



Unit: mm

4. SPECIFICATIONS

MODEL	TSL-16	TSL-20	TSL-22	TSL-24	TSL-27	TSL-30	TSL-33	TSL-36
VOLTAGE(V)	110 230	110 230	110 230	110 230	110 230	110 230	110 230	110 230
MAX CURRENT(A)	14 7	18 9	18 9	24 12	24 12	24 12	24 12	24 12
MAX POWER CONSUMPTION(W)	1650	2000	2000	2800	2800	2800	2800	2800
FREQUENCY(Hz)	50-60	50-60	50-60	50-60	50-60	50-60	50-60	50-60
CONTROLLABLE RANGE(N.m)	320	650	910	1200	1700	2100	3000	5000
RO SPEED(min ⁻¹)	36	28	24	20	15	11	5	3
WEIGHT(Kg)	3.8	4.2	4.5	5.5	6.5	6.8	6.8	10.5

MODEL	TSL-16	TSL-20	TSL-22	TSL-24	TSL-27	TSL-30	TSL-33	TSL-36
ΦD1	66	66	70	77	84	89	99	115
ΦD2	54	58	68	75	82	86	81	99
ΦD3	—	—	58	58	65	72	—	—
L1	161	191	214	227	240	267	264	306
L2	61	96	60	57	75	101	68	75
L3	46	71	95	107	115	143	140	182
L	206	238	262	275	291	318	315	357
H	252	254	256	260	271	273	278	286

5. APPLICATION OF SHEAR WRENCH

The shear wrench is to fasten the TC bolts, mainly used in electric power plant.

6. CAUTIONS FOR USING

In order to prevent accidents such as fire, electric shock, or any other kind of injury, observe cautions as mentioned below.

Read carefully before operating the wrench.

DANGER

● Beware of electric shock when working at high place.

* Very dangerous as fall down accident might be caused for both shear wrench and the operator.

WARNING

● Beware of electric shock!

* Never use wrench in damp, wet, windy, rainy, snowy conditions. might cause electric shock, fire, electricity leakage.

● Confirm if leakage breaker, as well as earth is provided to prevent electric shock.

* Avail current-acting type leakage breaker with rated current Sensibility below 15mA and acting time below 0.1sec.

* Wrong use may cause electric shock, fire, or electricity leakage. For the capacity or characteristics of leakage breaker or earth, please refer local rules or standards stipulated in your country.

● Electric cord has to be regularly inspected.

* If there is damage on electric cord, please ask your distributor for repair. Otherwise electric shock, fire or

WARNING

electricity leakage might be caused.

● Do not connect earth leads to gas pipe and oil pipe.

* Negligence might cause explosion or fire which might lead to serious injury or death.

● Beware of fall-down accident when working at a high place.

* Put on safety belt and wrench belt without fail. Provide net and/or canvas cloth at working site to protect person from falling material like shear wrench, bolt, other parts. Confirm there is no person underneath working site before operation.

● Avoid over-capacity use.

* Avail electronic wrench or accessories within rated capacity. Over-capacity operation might not only causes trouble to wrench but also becomes cause of injury.

● Make sure socket securely on the wrench body.

Ref: p14—p15 showing the correct socket changing method.

● Avoid unintended start.

* Do not bring about wrench with finger(s) touching trigger switch. wrench might mistakenly start up and cause injury.

● Disconnect cord plug from power source in following occasion,

* When wrench is out of operation. While replacing accessories. Strange sounds of the shear wrench. During inspection and maintenance. When danger is foreseen. At the time of black-out

● **Do not dismantle the wrench, Do not re-model or modify the wrench.**

* Modification or dis-assembling might cause electric shock, fire accident or injury. Dis-assembling can be done only when changing socket, screws, and carbon-brush.

● **In case strange sound, vibration or smell is felt, stop operation immediately and disconnect wrench.**

* Contact your distributor as soon as possible. Negligence might cause electric shock, fire and/or injury.

● **Ask your distributor for repair. Do not open electric portion.**

* If wrench is repaired by an ignorant or un-skilled person, wrench can not only work efficiently but also might cause accident or injury. repair can be done only by qualified person.

● **Inspect before use.**

* Check if there is no sign of deterioration or crack with sockets, main body, parts, cord wires, plug, connector, earth lead, etc. If there is no loose screw for fixing socket to main body.

* Negligence might cause electric shock, fire, burn or injury.

● **Apply right power source as described on the rating plate.**

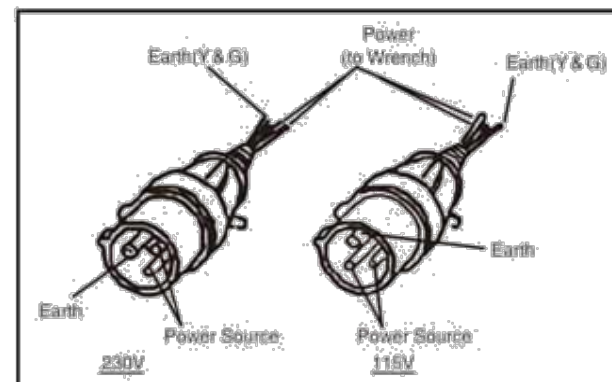
* Negligence might cause fire, burn, breakage or injury.

● **Earth the wrench without fail.**

* If the wrench is not double-insulated, earth is absolutely necessary.

● **If extension cable is used, apply those with earth and 3-P cable.**

* Use one of leads for earth and connect to earth on shear wrench side.



1) **For the models which are not over 1650W**

Nominal conducting cable cross section	Max.Length	
	230V	115V
1.25mm ²	15m	10m
2.0mm ²	25m	15m
3.5mm ²	40m	20m

2) **For the models which are not less than 2000W**

Nominal conducting cable cross section	Max.Length	
	230V	115V
2.0mm ²	15m	10m
3.5mm ²	25m	15m
4.0mm ²	40m	20m

7. **OPERATION METHODS**

1) **Tightening method**

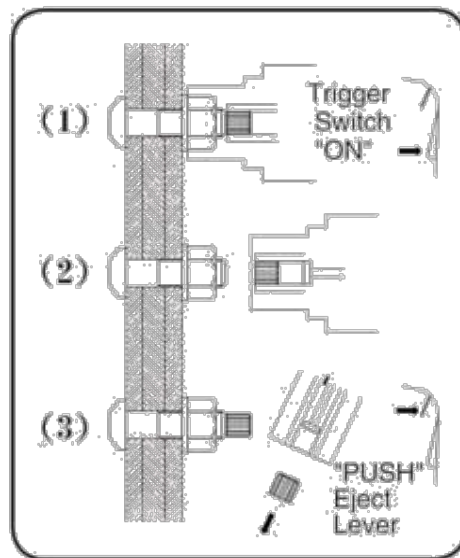
Insert pintail into inner socket completely, and adapt it.

into outer socket completely, operations take place simultaneously.

(1) Squeeze trigger switch to start, as the tightening proceeds, rotating speed gradually slows down, and when the designated torque is reached, pintail is sheared off the bolt at shearing groove.

(2) Separate wrench from nut straight on, sheared tip remains in inner socket.

(3) Operate eject lever to exhaust pintail.



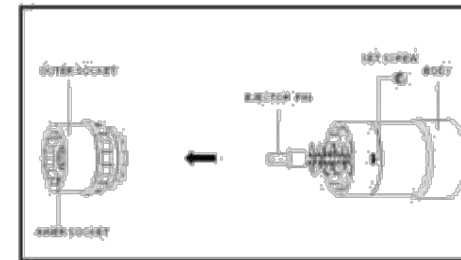
8. SOCKETS CHANGING METHOD

⚠ WARNING

Before changing the sockets, check if Ejector pin head is projecting into inner socket, if not, operate eject lever to project, then proceed changing sockets. Do not let you face towards the ejector pin, it might come out suddenly when eject lever touched unintended, otherwise, it may injury your face and eyes.

1) Unscrew the two set-screws using the little spanner as provided, then take off the inner and outer sockets.

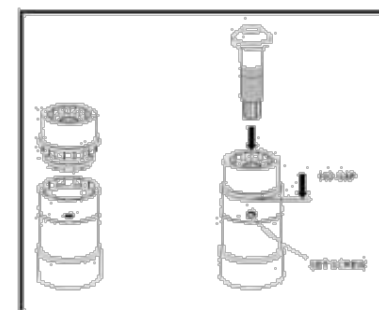
Do keep the set-screws, not unscrew completely will be better



2) Prepare the inner and outer sockets which are suitable for the bolt to be fasten. First tighten the first set-screw incompletely, then tighten the second set-screw completely, third back to the first set-screw then tighten completely.

For instance, chose 3/4" (M20) sockets to fasten 3/4" (M20) bolts.

3) Using the same size bolt to check the wrench sockets, put the bolt using two threads out into the inner sockets, then eject pin go down, then operate eject lever, if the eject pin come up, it will be ok.



9. MAINTENANCE AND INSPECTION

WARNING

- At the maintenance and inspection shut-off the switch and disconnect wrench from power source.
- After use or in case of black out, disconnect wrench from power source.

Unexpected start of wrench might cause injury.

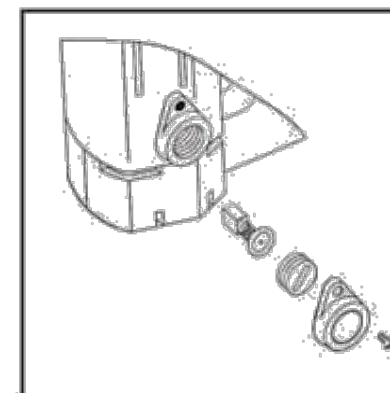
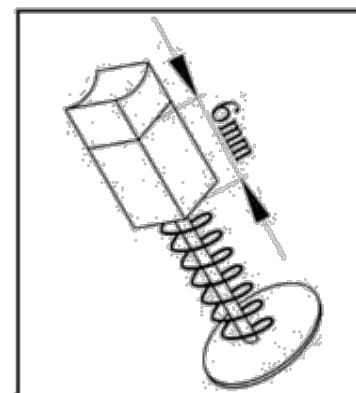
- 1) Socket needs to be clean usually after foreign material get into it, such as dust and sand.
- 2) Do not use the organic soluble such as benzene, thinner or gasoline to wipe up the dusts, they might crack or change the socket color.
- 3) Do not damage the motor or let oil or organic soluble stick to motor coil.
- 4) Keep the wrench in metal or plastic cases in dry place after using.
- 5) If the eject pin worn out, it will lose the function, pls use new one to replace it.

WARNING

- Inner socket need to be change if the eject pin come out without any operation.
- If the inside of inner socket worn out too much, Pintail is apt to come off.
- Such situation implies danger.

- 6) Carbon brush need to be checked frequently, must change a new one if it less than 6mm, otherwise, the motor might be worn.

* Note: carbon brush needs in both sides of the wrench.



- 7) Carry out brush cover every 6 months or after 30000 times tightening, count by the first coming one.

* Let your distributor do the repair.

10.OPTION

MODEL	Adaptable BOLT DIA								
	M12 1/2"	M16 5/8"	M20 3/4"	M22 7/8"	M24 1"	M27 1-1/8"	M30 1-1/4"	M33 1-3/8"	M36 1-1/2"
S-16	0	0							
S-20	0	0	0						
S-22		0	0	0					
S-24		0	0	0	0				
S-27				0	0	0			
S-30					0	0	0		
S-33						0	0	0	
S-36							0	0	0

11. SERVICE

* Contact your distributor any kinds of service you want, in case of failure of the wrenches, pls. provide enough information such as model name, serial number, date, month and year of purchasing, voltage and details of failure.



This statement will lose the legal effect and the warranty period, if the shear wrench changed without our authorization.

MEMO

1. The first step in the process of creating a new product is to identify a market need. This involves conducting market research to understand what consumers are looking for and what gaps exist in the current market.

2. Once a market need is identified, the next step is to develop a concept. This involves brainstorming ideas and creating a rough sketch of the product.

3. The third step is to create a prototype. This is a physical model of the product that allows you to test its functionality and make any necessary adjustments.

4. After the prototype is created, the next step is to conduct a feasibility study. This involves assessing the technical, financial, and market viability of the product.

5. Once the feasibility study is complete, the next step is to develop a business plan. This document outlines the company's goals, strategies, and financial projections.

6. The final step in the process is to launch the product. This involves marketing the product to the target audience and distributing it to the market.