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TUWEITM
TUWEI PIPE MACHINERY

TWG-11A MANUAL ROLL GROOVER



Please read the manual before operating it.



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I, Major applications and scope

TWG-11 is designed to groove 3/4"-8" steel pipe. It's allowed to work with Ridgid 300 power driver

II, Technological Parameters

Min pipe dia.....3/4"
 Max pipe dia.....8"
 Max wall7.11(SCH40)
 Dimension.....230×125×217mm
 Net weight.....10.5kg

III, Precautions...

1. This tool is only for groove steel pipes. Groove standard is listed on page 13
2. **Check the tool before using it**
3. **Wear suitable cloths**
4. **Using glass and glove and all the defence devices when operations.**
5. **Start working after the pipes been fixed. Make sure the pipe is not vibration due when shaking the handle**
6. **Keep your hands away from the pinch points when grooving operation.**
7. **Don't use the tool if it's over the capacity.**
8. **Take care the tools. Keep it clear and use grease every working day.**
9. If any problem please contact with local distributor or the factory. Don't disassemble the tools by

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35	0514012	%%c6X25pin	1
36	030119033	handle	1
37	030119029	Rod(for installation onto ridgid 300)	2
38	0501045	AXK3047 (washer AS3047)	1
39	0510033	Small round nut	2
40	030119011	Feeding nut	1
41	030119012	Feeding bolt	1
42	0516040	M10X1 oil cup	1
43	030119009	Pinch roller shaft	1
44	0509016	M6X20 screw	2
45	0501043	NK25/20	1
46	030119001	Pinch roller D27-D48	1
	030119002	Pinch roller D60-D168	1
	030119003	Pinch roller D219	1
47	030119010	Pinch roller frame	1
48	030119015	Rear pressing plate	1
49	0505013	M6X20screw	4

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XI, Troubleshooting

Problem	Analysis	Troubleshooting
Groover shaking and Cannot rotate	There is some dust or rust happened on the fix points Bottom knurl wheel wearing	Remove the rust and dust using steel brush Check if the wearing of bottom knurl wheel is serious. If serious please change new wheel.
Groover shake when move surrounded with the pipe	The pipe thickness is not even or the feeding speed is improper	Try to change the feeding speed
Groover slip away from the pipes	Groover has not been placed onto the right position. The end of the pipe is not smooth or improper speed.	Try to place the groover onto the right point which close to the benchmark block. Cut the ends squarely Change the right speed level.
Groover stop moving surrounded the pipe	There is rust or dust on the inner surface of the pipe Bottom knurl wheel is wearing Roller pin is broken	Remove the rust and dust using steel brush Check if the wearing of bottom knurl wheel is serious. If serious please change new wheel. Change the roller pin
Cacophony come out when grooving	The end of the pipe is not square. Too much friction with the benchmark block.	Cut the pipe ends squarely. Grease the benchmark block.

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yourself.

IV, Grooving operation

1. Check the size of the pipe to be grooved and use the correct rollers
2. Change the correct the pinch roller and knurl wheel. (refer to chapter V)
3. Turn the feeding nut anti clockwise. So there will be space between top pinch roller and bottom knurl wheel to put in the pipes. (image1)

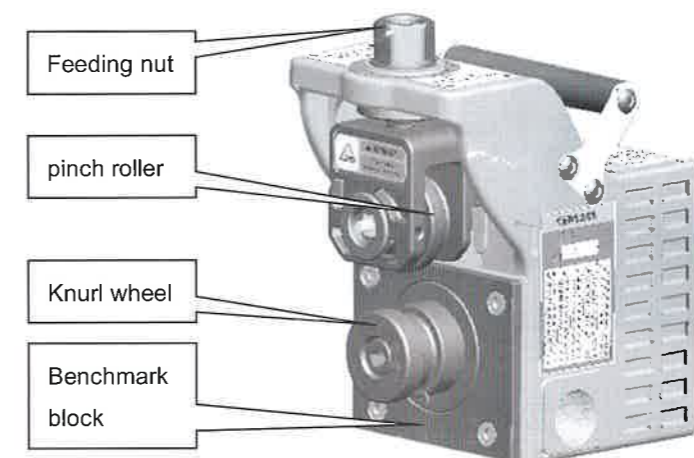


Image 1

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4、 Insert the bottom knurl wheel into the pipe , make the pipe contacting with the benchmark block.
(image2)。

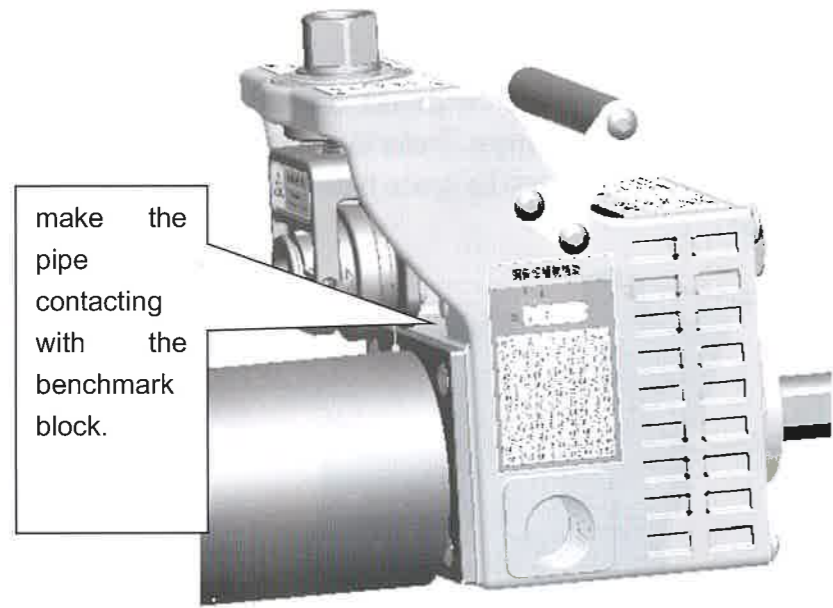


Image 2

		block	
16	030119008	Lifting handle	1
17	0501044	32909 bearing	1
18	030119020	Bearing sleeve	1
19	030119017	Gear box	1
20	0506022	M8X25 screw	4
21	030119026	2 nd level gear sleeve	1
22	030119025	3 rd level gear sleeve	1
23	030119027	2 nd level gear	1
24	030119024	3 rd level gear	1
25	030119021	1 st level gear	1
26	030119022	Main shaft locking nut	1
27	0509003	M6X8 screw	2
28	030119026	2 nd level gear sleeve	1
29	0516060	W32 45 oil sealing	1
30	0506013	M6X20 screw	1
31	0514012	%c6X25 pin	1
32	030119032	Drive shaft	1
33	0506032	M10X125screw	1
34	030119023	nut	1

X、 parts (image14)

No	Code	Description	Qty
1	0506037	M12X170 screw	1
2	030119004	Knurl wheel D27-D33	1
	030119005	Knurl wheel D42-D48	1
	030119006	Knurl wheel D60-D168	1
	030119007	Knurl wheel D219	1
3	0506048	Screw	4
4	030119018	Benchmark block	1
5	0516061	W50 68 oil sealing	1
6	030119019	Main shaft	1
7	0512020	Pin 8X16	1
8	0501044	32909 bearing	1
9	0506032	M10X125 screw	1
10	030119028	Unit head	1
11	030119014	Depth indicator	1
12	0513020	30 retainer ring	1
13	030119013	Depth pointer	1
14	0506013	M6X20 screw	6
15	030119016	Lifting handle installation	1

5、 Turn the feeding nut clockwise until thee top pinch roller contacting with the pipes. (image3)。

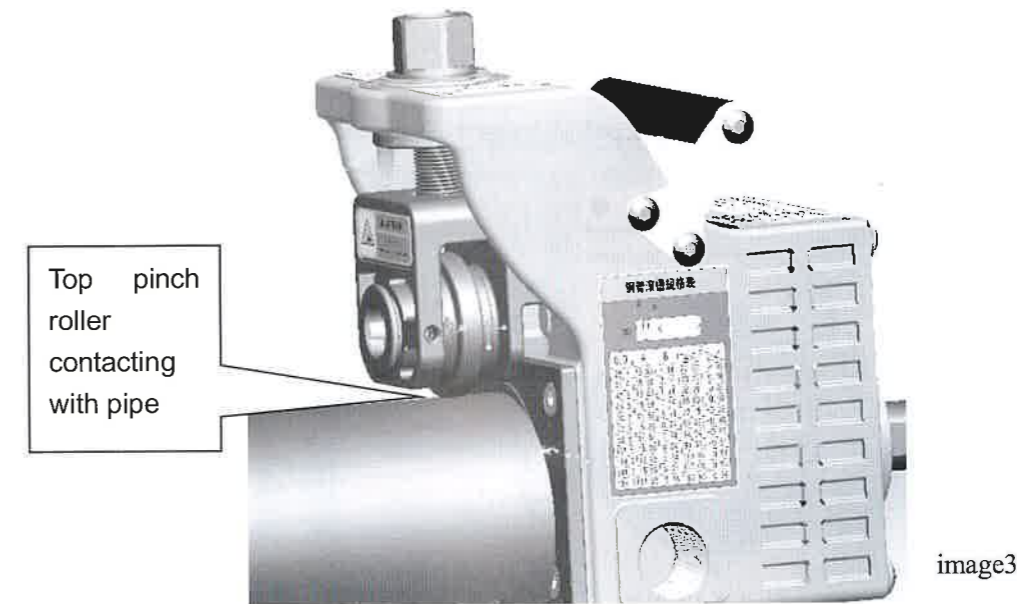


image3

6、 Check the depth,the feeding nut is the device to control the depth. (refer to image4), the standard depth pleas refer to diagraeme2.

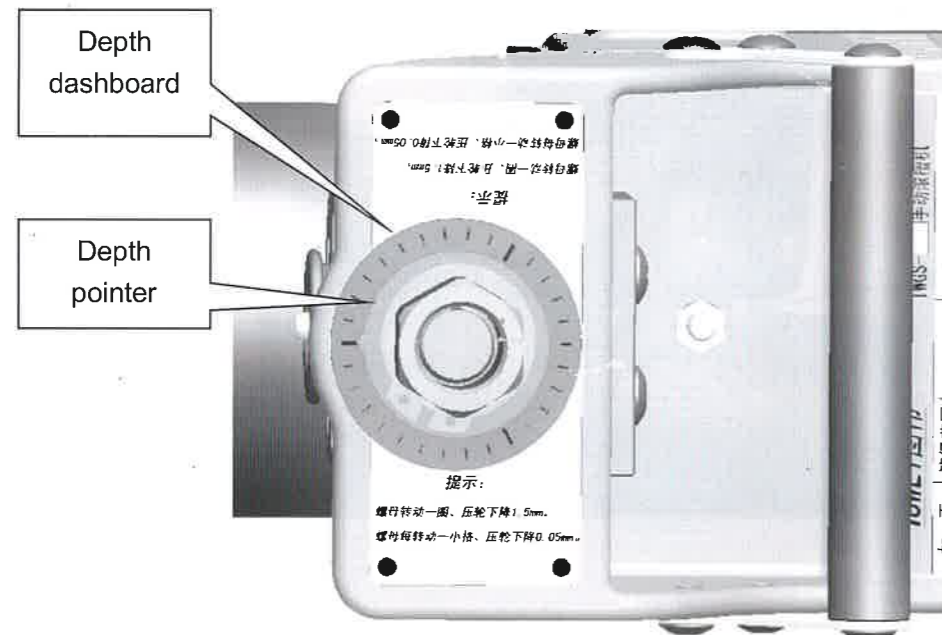


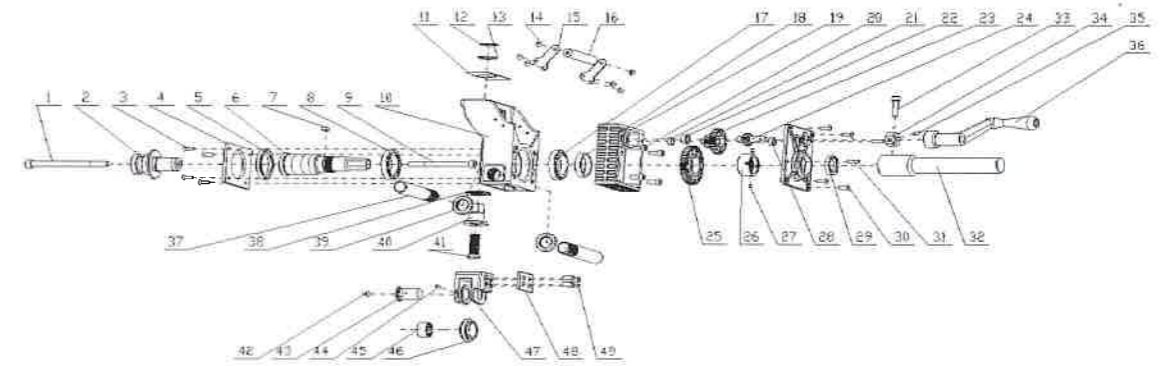
Image 4

VIII、 Groove standard (mm)

Diagram 2

Pipes(dia)	A±0.8	Width $B_{-0.7}^{+0.8}$	Depth $D^{+0.58}$
26.7	15.88	7.14	1.42
33.4-48.3	15.88	7.14	1.6
60.3	15.88	8.74	1.6
73-88.9	15.88	8.74	1.98
101.6-139.7	15.88	8.74	2.11
141.3	15.88	8.74	2.13
152.4-168	15.88	8.74	2.16
203.2-219	19.05	11.91	2.34

IX、 Exploded drawing



7、 Insert the handle into the the feeding nut. (image5), turn the handle clockwise, the speed of turning please refer to diagraeme 1..Please note the speed of the feeding is depend on the material and thickness of the pipes..Don't feed over the speed limit.

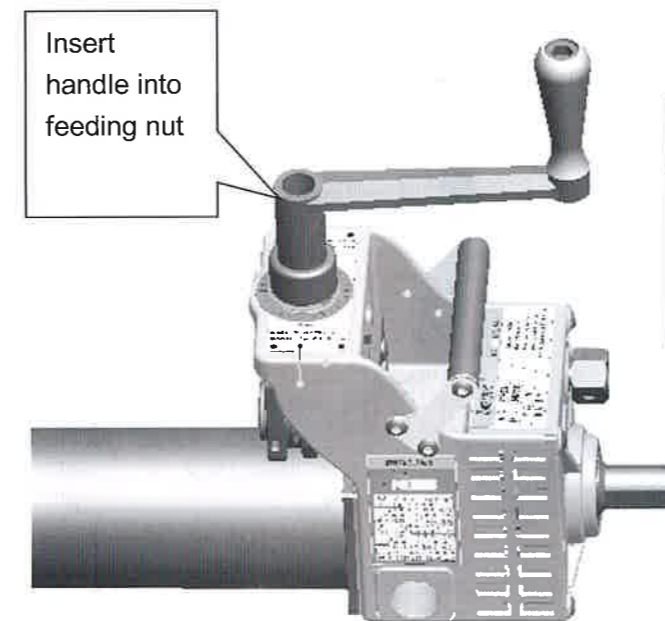


Image 5

Diagram 1

Pipes	Thickness mm	Recommended speed
Steel and stainless steel	2.1-3.4	$\frac{1}{2}$ revolving speed
	3.4-7.1	$\frac{1}{4}$ revolving speed

8. When give enough feeding on the feeding nut, take off the handle and insert to the drive nut (image6), turn the handle clockwise or anti clockwise until the manual groover move 1 cycle surround the pipe.

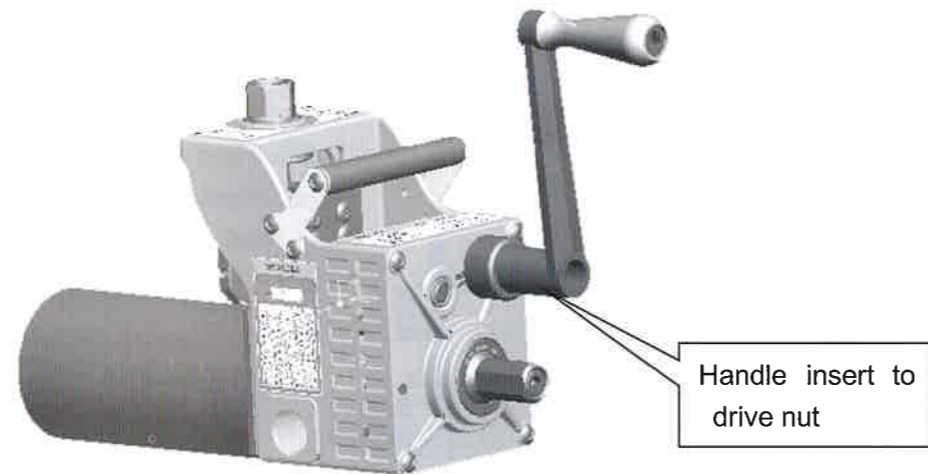


Image 6

VI. Mount the groover to the Ridgid 300 power unit.

1. Screw the 2 handle(connecting rod) into the groover and fix the small round nut. (image10).

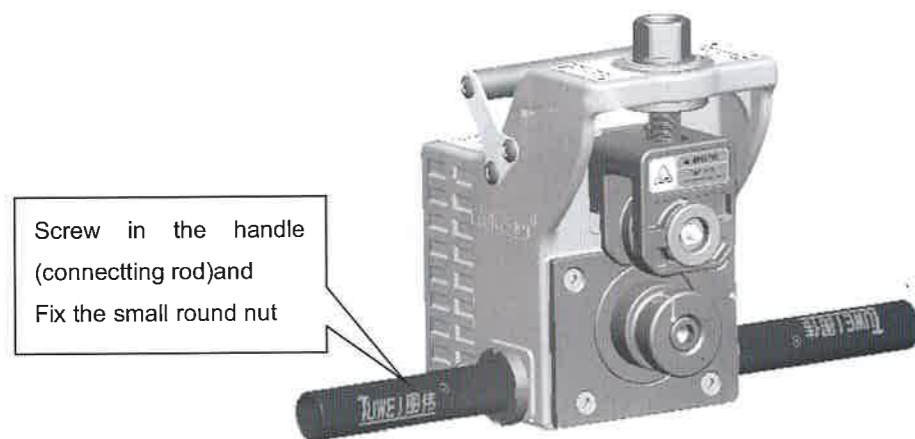


Image10

2. Insert the connecting pipe into the main shaft of the groover. (image11)

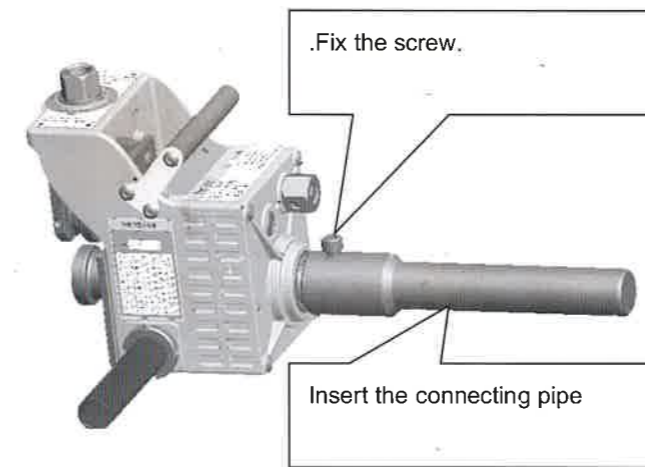


Image11



Image12

2. Mount to Ridgid 300 power unit, and fix the the fore chuck (image12)

VII. Maintenance

1. Grease the groover by spray gun each 8 working hours.
2. Lubrate the feeding nut ,bolt and each the pinch point and drive points using light oil at least 1 time in 1 week.

9. Repeat operation 7 and 8 until the depth pointer move to the correct scale. (Means the depth is ok)
10. When get the correct depth, repeat operation 8 until the groover move more than 2 cycles surrounded the pipe. (So the groove will be very smooth, easy to connect with couplings)
11. Move the groover onto the tope of pipe by swing the handle.
12. Grab the groover, and them move turn the feeding nut clockwise to release the top pinch roller.
13. Take out the groover from the pipe .

2、 3/4"-1" and 1.1/4"-1.1/2" knurl wheels disassemble please refer to image8.

Screw out the screw by allen
y

Pull out the pinch roller shaft to
ase the pinch roller.

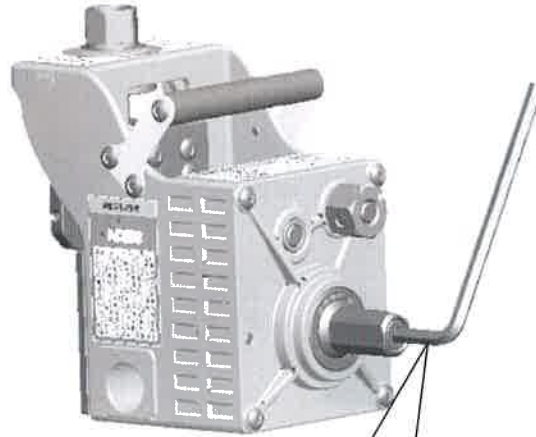


Image8

Screw out bolt by allen
key to pull out 3/4"-1" or
1.1/4"-1.1/2" bottom
knurl wheels

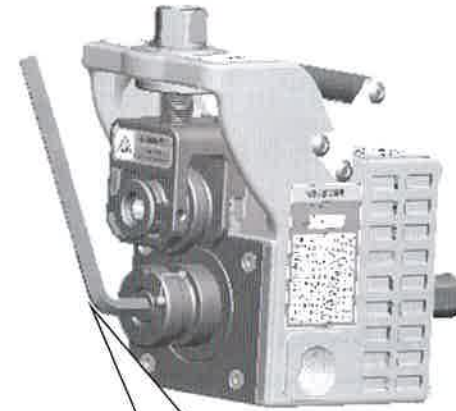


Image9

Screw out bolt by allen
key to pull out 2"-6" or
8" bottom knurl wheel

3、 2"-6" and 8" bottom knurl wheels disassemble please refer to image9