



OCL8850

Instruction Manual

Table of Contents

1. Summary	3
2. Important Safety Instructions	6
2.1 First Installation	8
2.2 Controls OCL8850 Lathe	12
2.3 Controls OCL8850 Drive Unit	13
3. Preparation	16
4. Fitting Mounting Adapter	18
4.1 Choice of inserts	18
4.2 Choice of Z-brackets	19
4.3 Adapter assembly	20
4.4 Place and adjust the adapter	20
5. Fitting the OCL8850 Lathe on UMA	21
5.1 Examples	22
6. Positioning OCL8850 Drive Unit	26
7. Machining	27
8. Follow-up	28
9. Maintenance	29
10. Trouble shooting	30
11. Tips / Spare Parts	31
11.1 Tips	31
11.2 Spare Parts	31
12. Electrical Diagram	32
13. Technical Specification	33
14. Notes	34

Read and follow this instruction manual before assembling, installing, operating, or servicing the equipment.

1. Summary

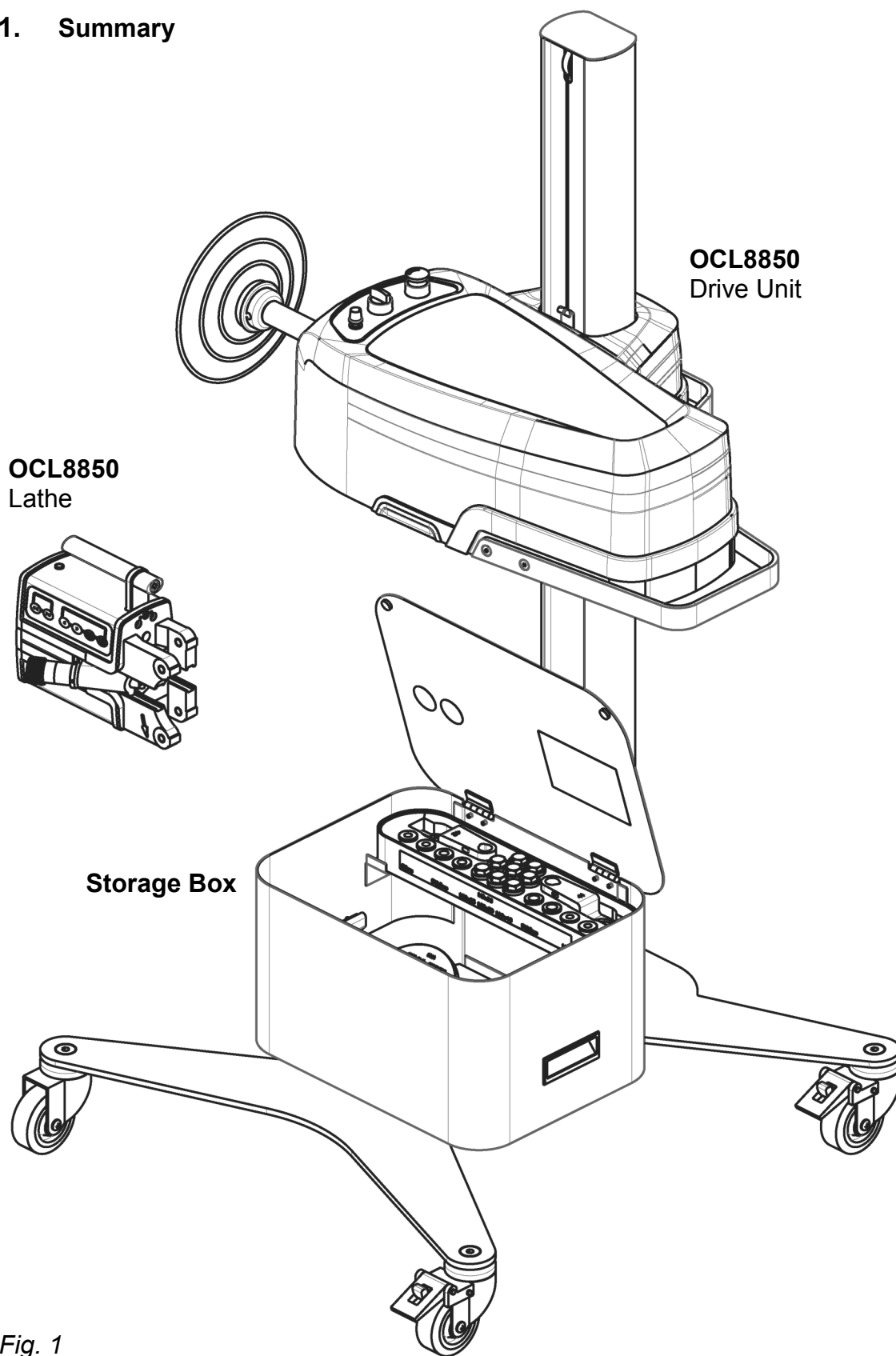
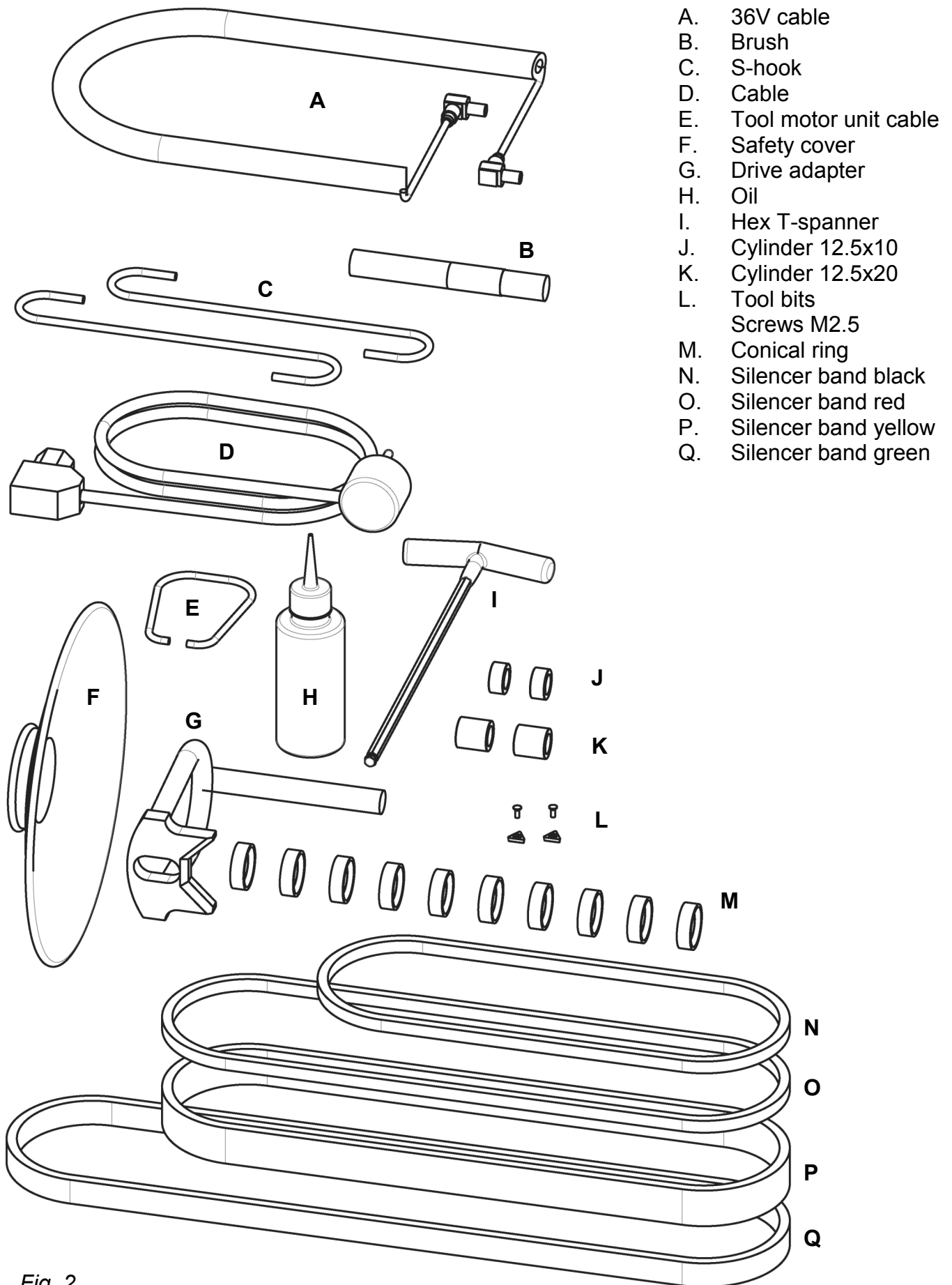


Fig. 1



- A. 36V cable
- B. Brush
- C. S-hook
- D. Cable
- E. Tool motor unit cable
- F. Safety cover
- G. Drive adapter
- H. Oil
- I. Hex T-spanner
- J. Cylinder 12.5x10
- K. Cylinder 12.5x20
- L. Tool bits
- M. Screws M2.5
- N. Conical ring
- O. Silencer band black
- P. Silencer band red
- Q. Silencer band yellow

Fig. 2

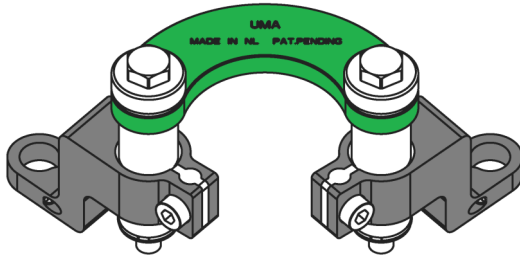


Fig. 3

UMA, Fig 3.
 Universal Mounting adapter
Short Z-brackets with hole
 Ø16.2 mm/ 0.63 inch

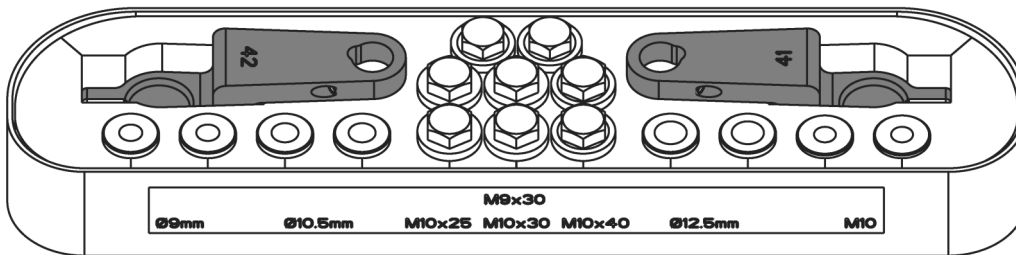


Fig. 4

UMA accessories, Fig 4.
Long Z-brackets with hole
 Ø16.2 mm/ 0.63 inch
Inserts without thread
 Ø9 mm / 0.35 inch
 Ø10.5 mm/ 0.39 inch
 Ø12.5 mm/ 0.47 inch
Inserts with thread
 M10 (metric)
Washers
 Ø24xØ11x4 / 0.94x0.43x0.16 in
Bolts
 M10x25 (metric)
 M10x30 (metric)
 M10x40 (metric)

2. Important Safety Instructions

When using this equipment, basic safety precautions should always be followed, including the following:

1. This machine shall only be operated by an authorized service technician.
2. Read all instructions in this manual. Only use this equipment as described in this manual.
3. **Warning:** Machining a rotor generates hot chips. Care must be taken to avoid coming into contact with hot parts. Wear appropriate protective clothing, work gloves, a dust mask, and safety glasses. Make sure a fire extinguisher is nearby.
4. Only use the equipment as stipulated in this manual and maintain equipment as described.
5. Prior to using the equipment, inspect it for damage, inspect all safety guards, inspect all electric components. Do not use the equipment until all repairs are made by a qualified repair technician.
6. Follow the electrical specifications as stated on the information plate of each device.
7. The electrical outlet should be near the equipment and easily accessible.
8. If the equipment has been dropped or damaged, do not operate the equipment until it has been inspected and repaired by a qualified repair technician.
9. Do not let cords hang over the edge of the workbench or counter, or come in contact with a hot manifold or moving fan blades.
10. If an extension cord is required, use a cord with a current rating equal to or greater than the current rating of the equipment. Cords rated for less current could create a fire hazard. Arrange cords to avoid a tripping hazard.
11. Always unplug the equipment from the electrical outlet when not in use.
12. Allow the equipment to cool completely before storing. Loop cord around equipment for storage.
13. When the equipment is not in use, it should be stored away from unauthorized personnel.
14. Do not use the equipment in wet, humid environments, or where there is risk of explosion.
15. Equipment should be operated with adequate ventilation.
16. Keep hair, loose-fitting clothing, fingers, and other parts of the body away from moving parts.
17. **ALWAYS WEAR APPROVED SAFETY GLASSES.**
18. Always use the OCL8850 Lathe and Drive Unit together as a single unit.
19. Only use recommended attachments.
20. The drive unit must be equipped with the safety guard (SK-508), as specified in this manual.
21. Do not overload the Lathe and drive unit.
22. Maximum weight capacity on top of the Drive Unit -on the rubber mat- is 1 kg (2.2 Lbs.).
23. Keep a clean, well-organized workplace. A disorderly work environment can lead to accidents.
24. Make sure the surface of the work area is level.
25. Do not use the electro motor (Drive Unit) below a level of 46 cm (18 in.) from the shop floor.

26. A 0.5 meter (20 in.) work area is required adjacent to the Drive Unit and Lathe.
27. Do not move the equipment while it is running.
28. If possible, always use the rubber silencer ring around the outer edge of the brake rotor to help minimize vibration and noise.
29. Check the alignment of all moving parts and their connections for possible part faults, proper set up, and inspect for any other condition that might effect the proper operation of the equipment.
30. In the interest of safety and effectiveness, keep all cutting tips sharp and the equipment clean.
31. Hand grips must be kept dry, clean, and free from oil and grease.
32. Repair and maintenance of the equipment shall only be carried out once power is switched off and the power plug removed from the mains.
33. Only use original manufacturer's parts for repairs and maintenance.
34. Manufacturer cannot be held liable for customized attachments or modifications to the equipment.
35. Always follow the safety regulations and disassembly/assembly instructions provided by the automobile manufacturer.
36. Do not use this equipment under the influence of drugs or alcohol, or if your judgment is impaired.
37. Machining the brake discs can affect the brake performance. After machining check if the deceleration meets the requirements of the law and the car manufacturer.

SAVE THESE SAFETY INSTRUCTIONS



Fig. 5



Fig. 6

2.1 First Installation

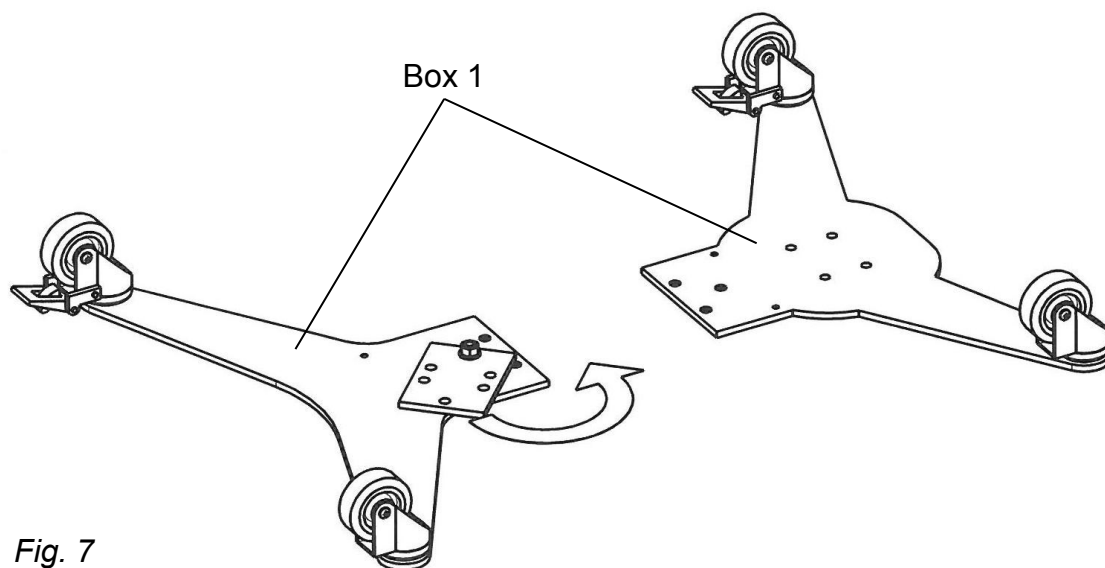


Fig. 7

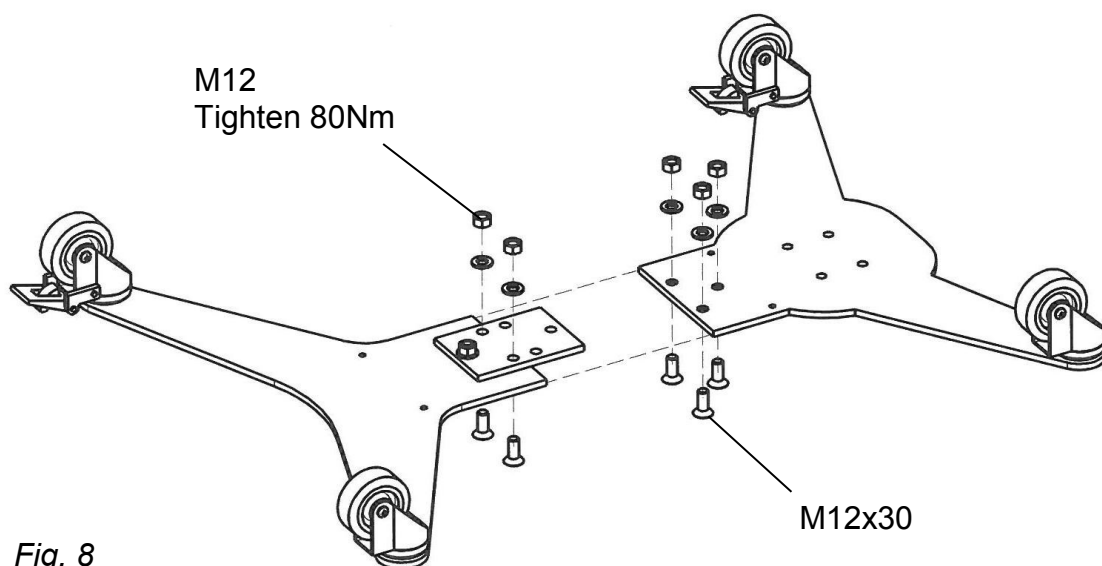


Fig. 8

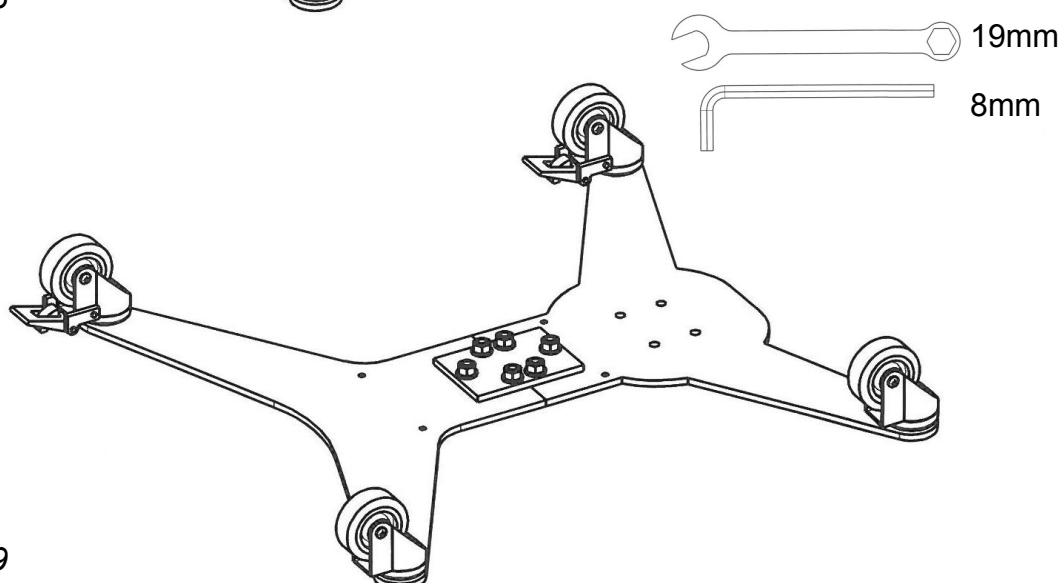
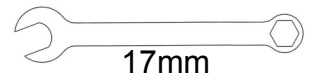
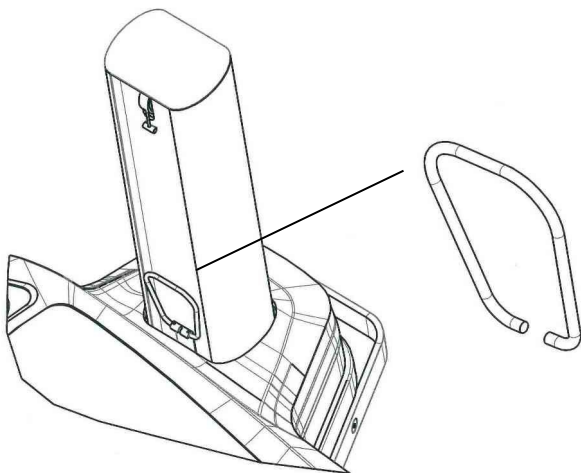
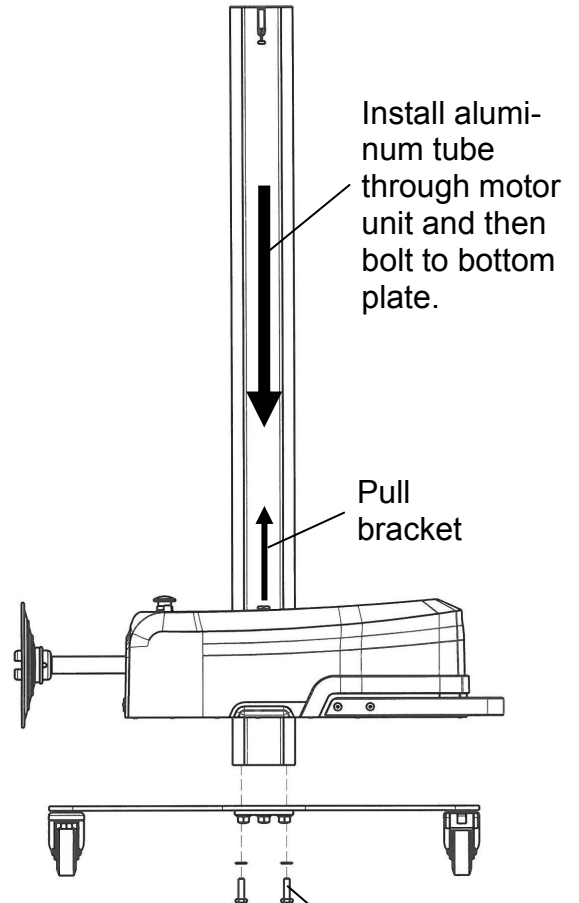
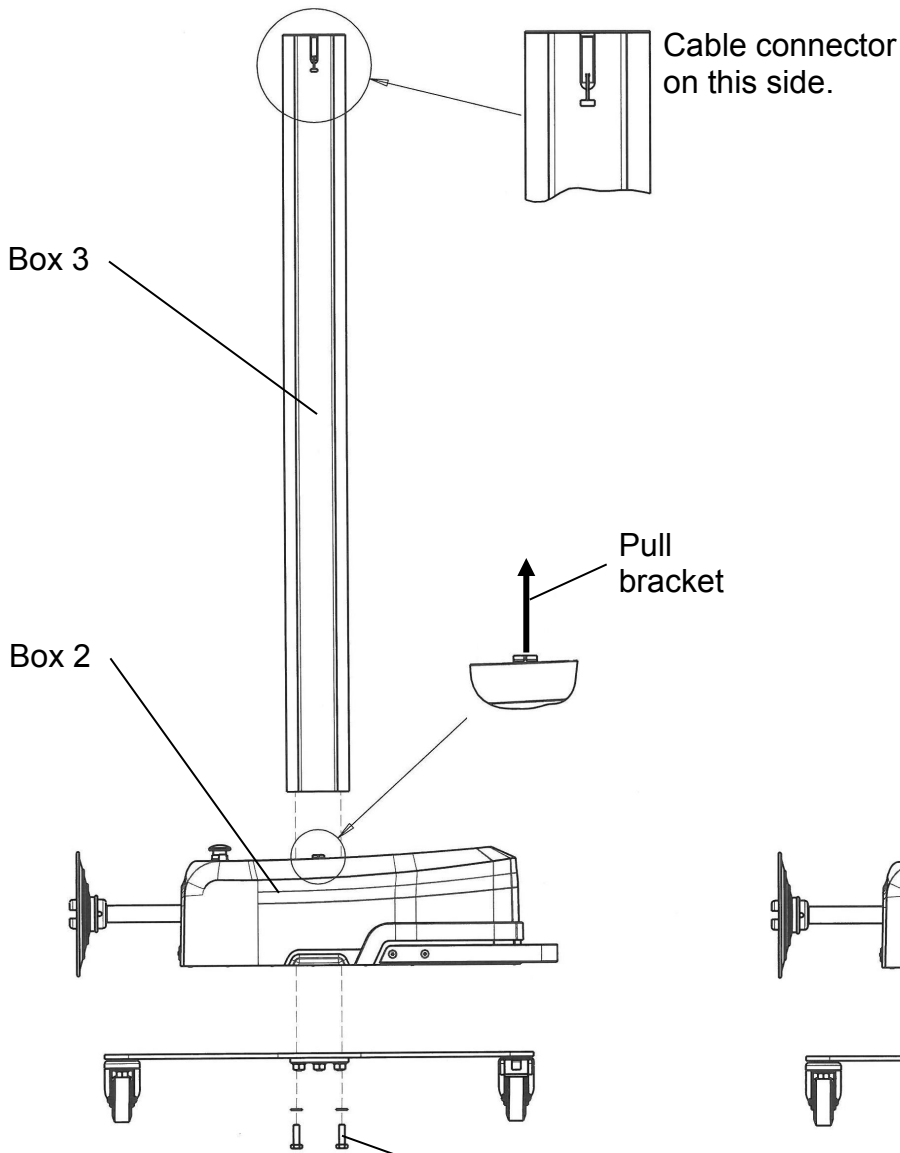


Fig. 9



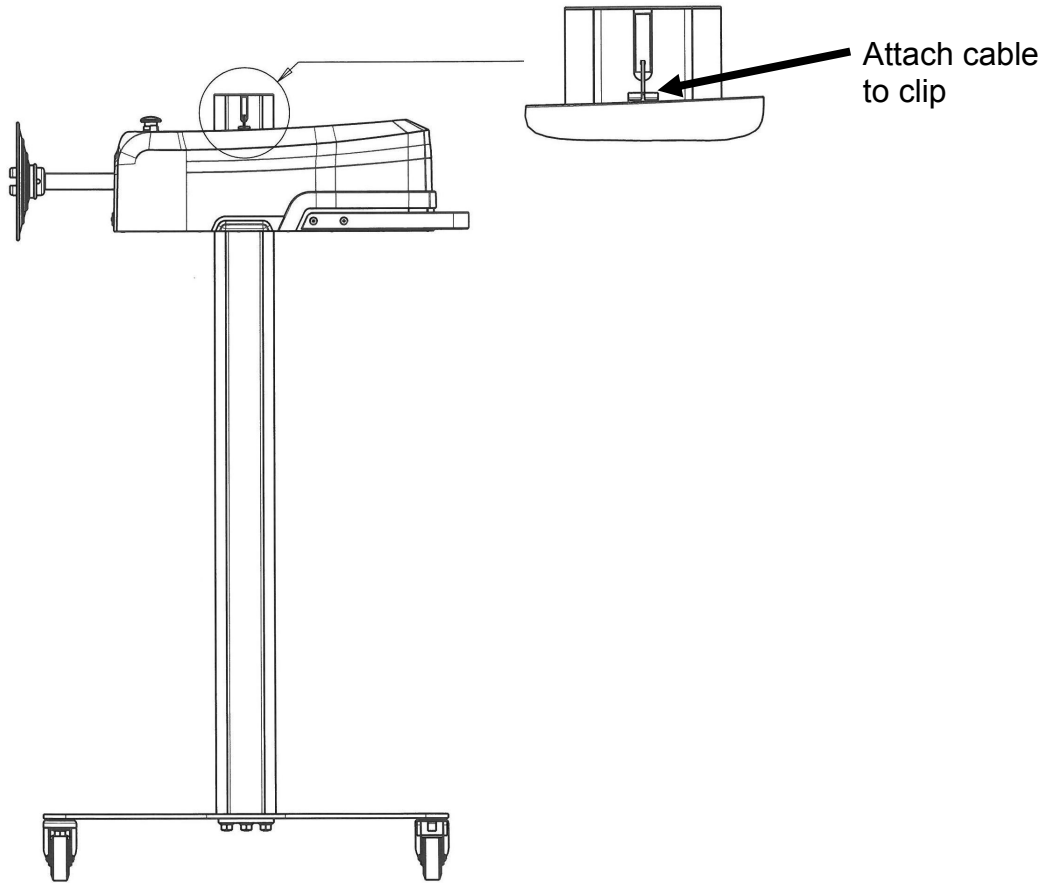


Fig. 13

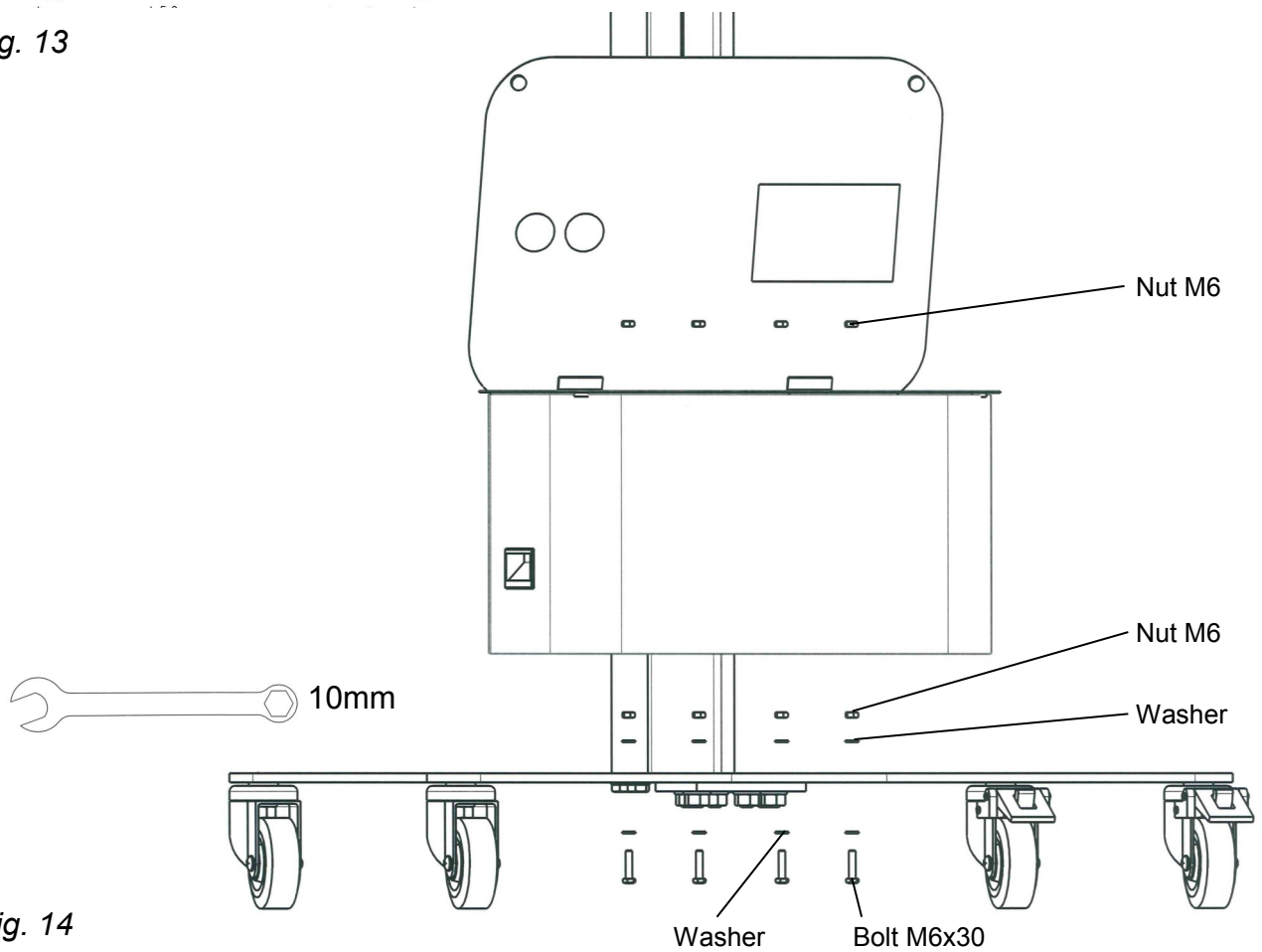


Fig. 14

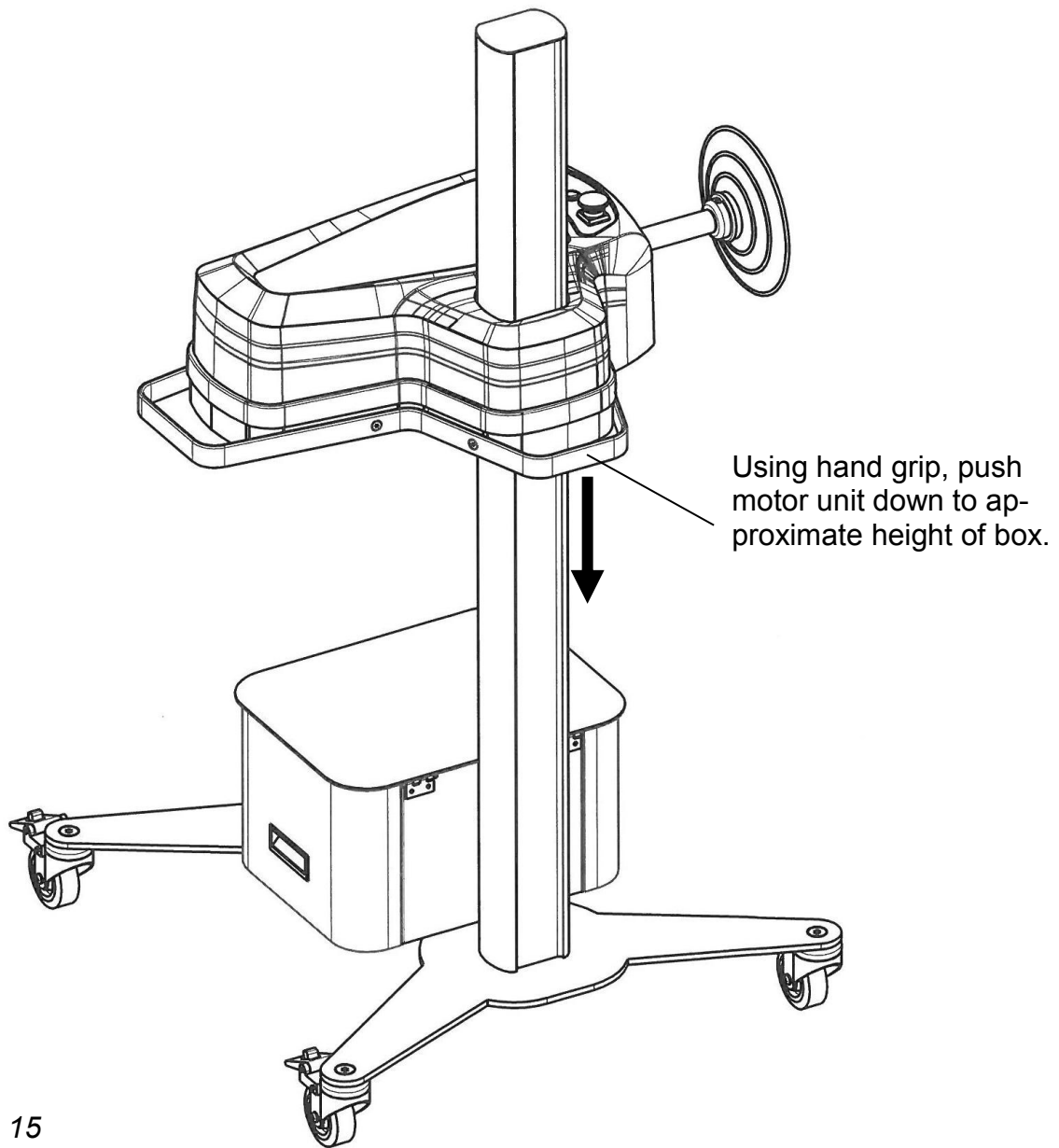


Fig. 15

2.2 Controls OCL8850 Lathe

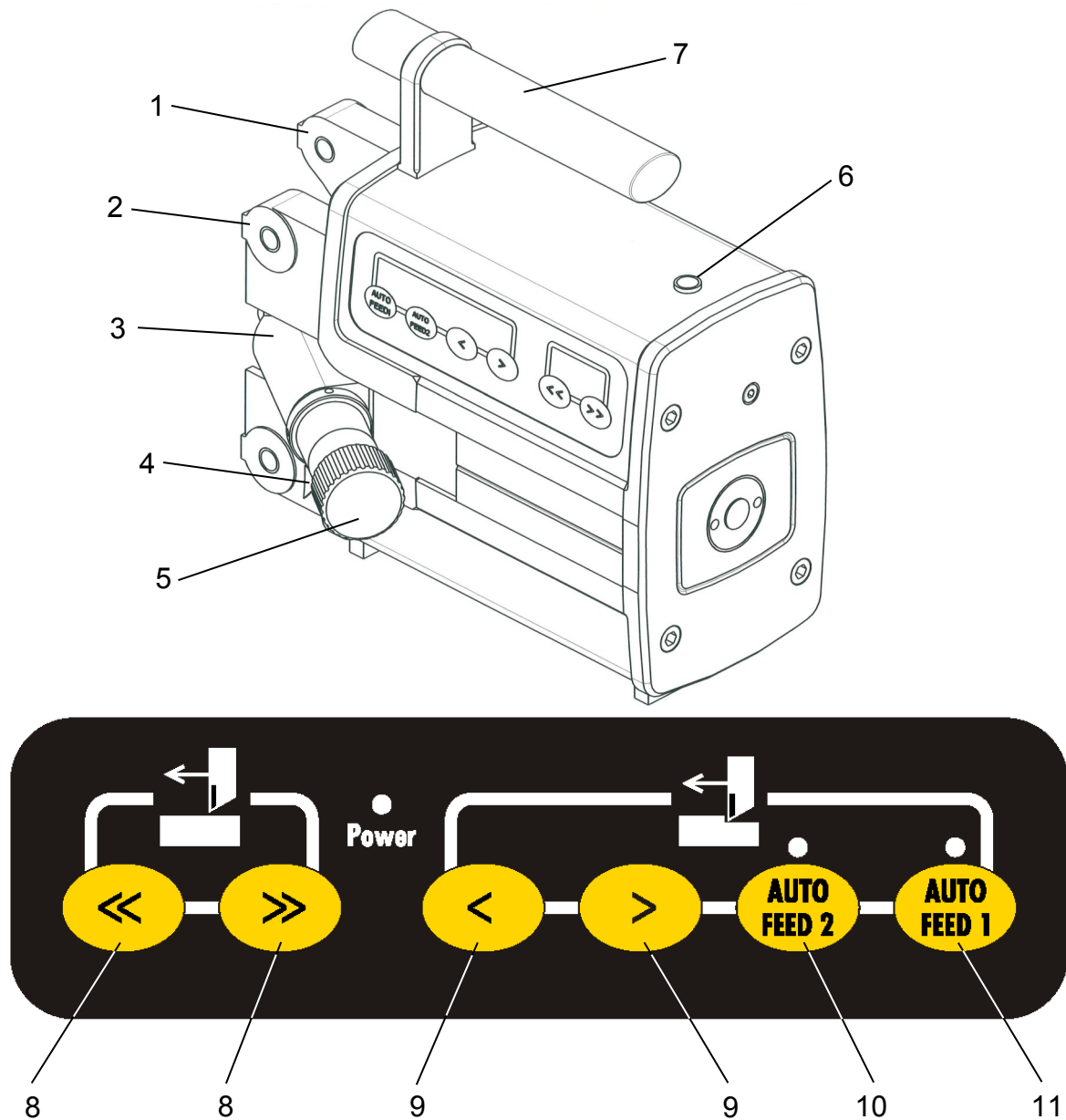
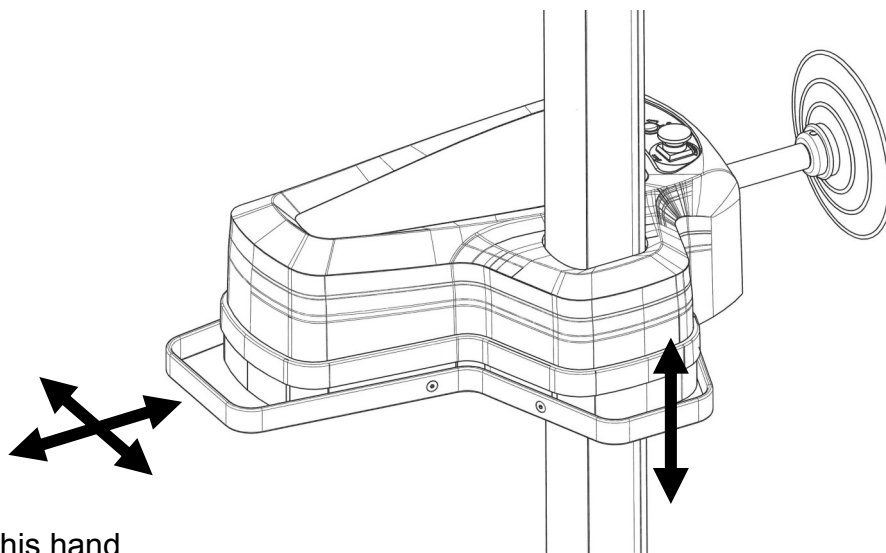
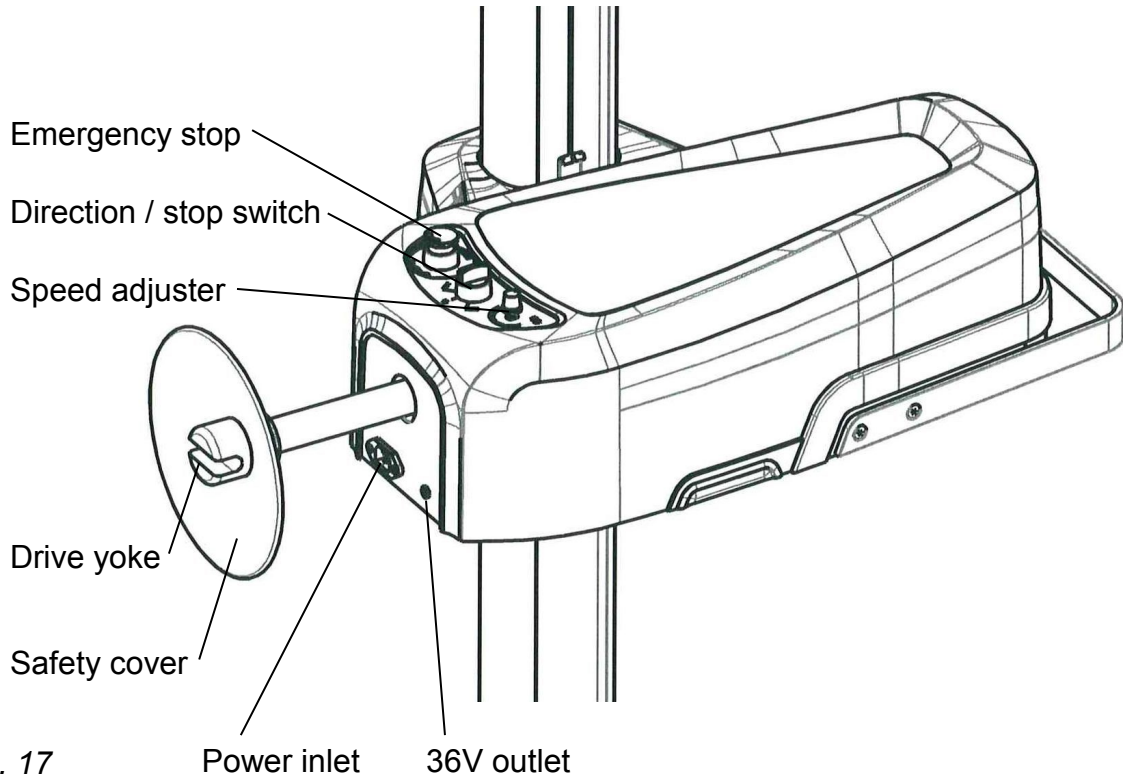


Fig. 16

1. Long mounting ear
2. Short mounting ear
3. Slide
4. Direction indicator arrow
5. Cutting depth adjustment knob
6. 36V power plug
7. Handle
8. << and >> Slides high-speed control buttons
9. < and > Slides low-speed control buttons
10. Autofeed 2 - Slides high-speed automatic feed
11. Autofeed 1 - Slides low-speed automatic feed

2.3 Controls OCL8850 Drive Unit



Use this hand grip to roll cart along shop floor.

Use this hand grip to reposition height of drive motor.

Fig. 18

In case of emergency, power off the drive unit by pressing the emergency stop button. In a safe situation, the emergency stop is reset by rotating the knurled ring under the stop button, clockwise. The drive unit is reset by rotating the motor switch to position 0.

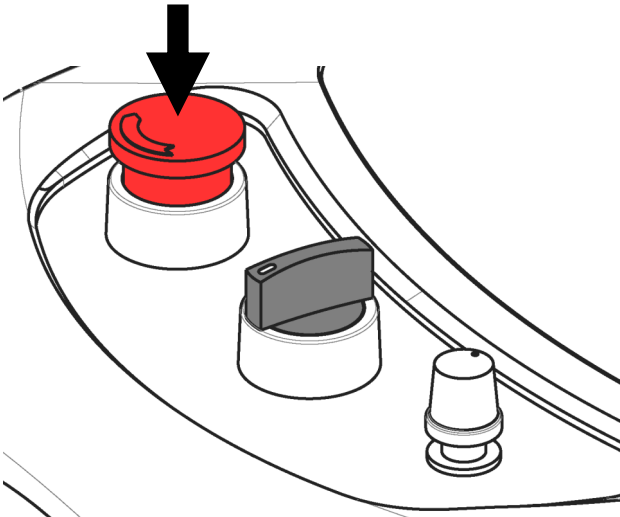


Fig. 19

Press down for emergency stop.

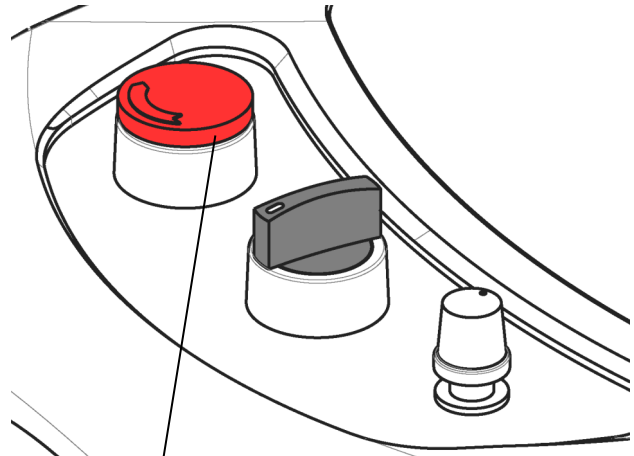


Fig. 20

Rotate bottom ring clockwise to reset emergency stop.
Rotate direction switch to 0 to reset drive unit.

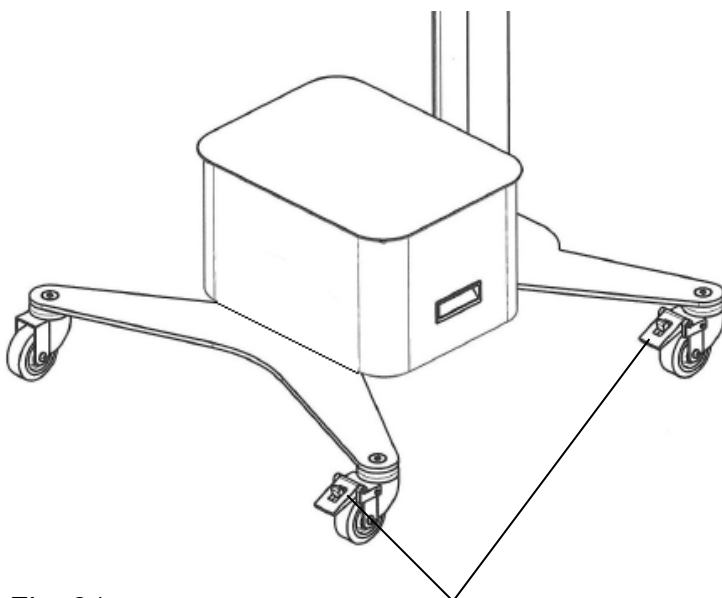


Fig. 21

Lock castor wheels during machining.

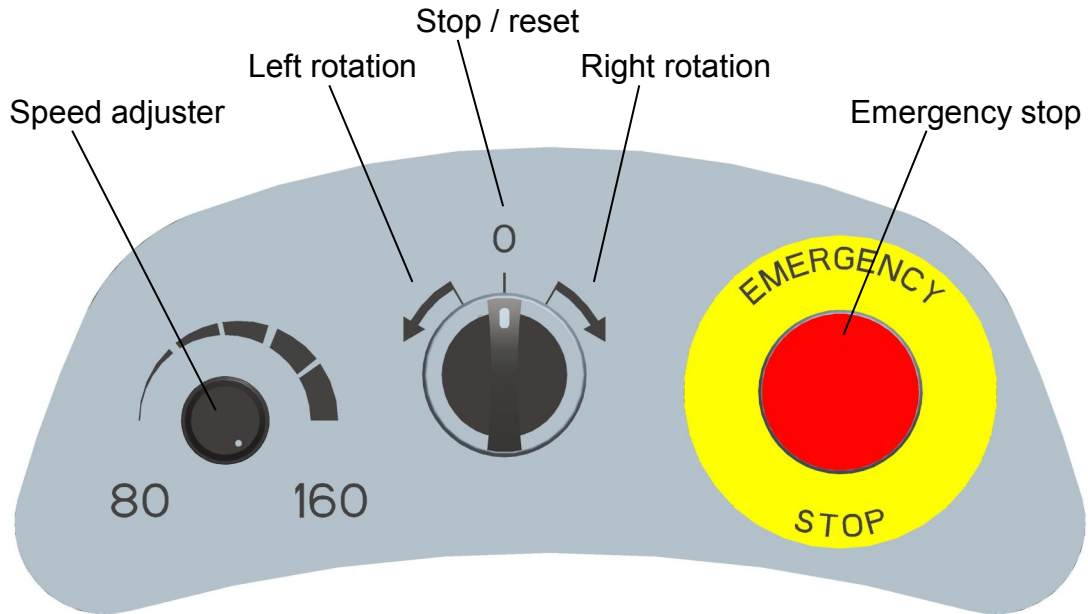
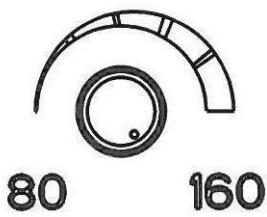
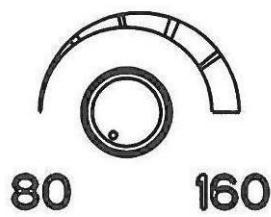


Fig. 22



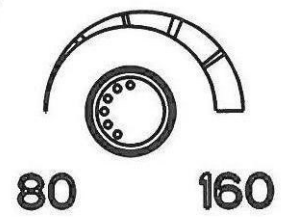
160 rpm
Normal use, maximum speed.

Fig. 23



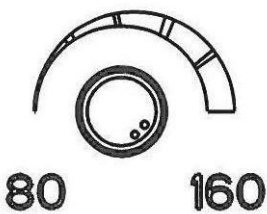
80 rpm
Minimum speed.

Fig. 24



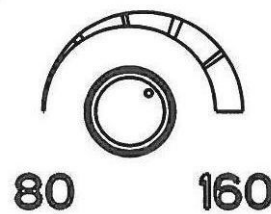
80 - 120 rpm
Use only autofeed 1 on the Lathe.

Fig. 25



160 - 155 rpm
When using a two-post car lift, gradually adjust motor speed to reduce vehicle sway.

Fig. 26



130 rpm
Maximum torque, use on 4WD cars.

Fig. 27

3. Preparation



Fig. 28



Fig. 29

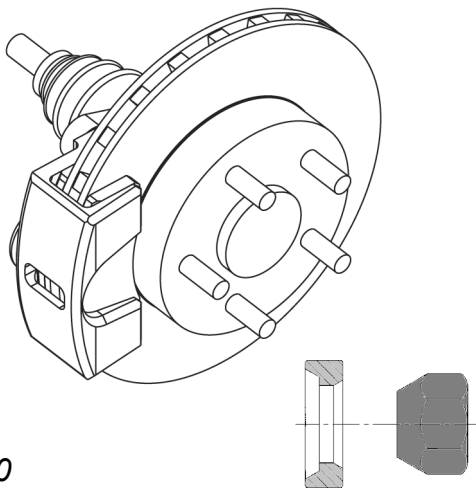


Fig. 30

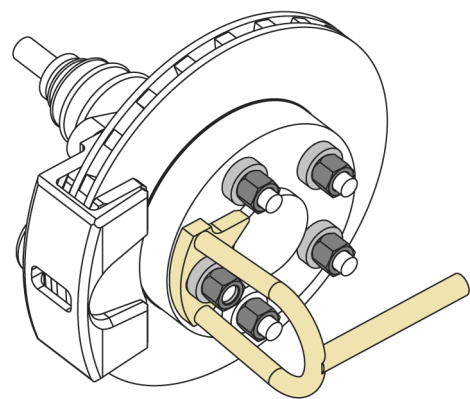


Fig. 31

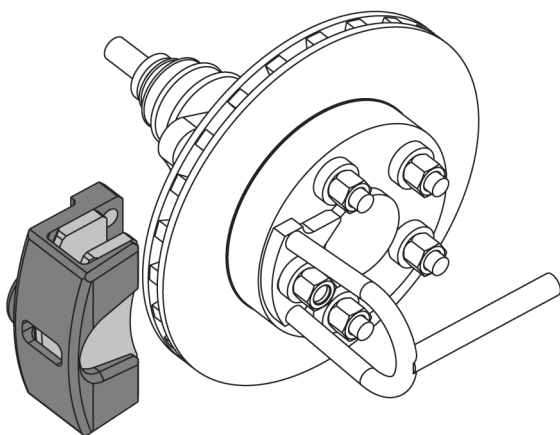


Fig. 32

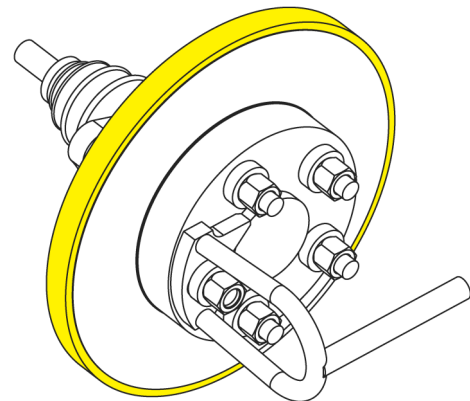


Fig. 33

1. Place vehicle on car lift and put transmission in neutral.
2. Raise lift and place vehicle at correct working height, Fig. 28.
3. Check wheel bearing play on both sides of vehicle Fig. 29.
4. If necessary, adjust wheel bearing tolerances as described by the workshop manual.
5. Immediately after removing the wheel, secure the brake rotor to the hub to prevent dirt particles from accumulating between rotor and hub.
Use a brake pedal depressor to lock the brake rotor.
NOTE: Brake rotors are not all mounted to a hub with a screw or nut.
6. Remove the wheel and secure the brake rotor with the wheel nuts (or bolts) and conical rings, Fig. 30-31.
7. Mount the drive adapter to one of the wheel nuts (or bolts), Fig. 31.
8. The V-shape of the drive adapter must seat firmly along the edge of the hub.
9. Tighten the wheel nuts or bolts evenly to 50 Nm (37 Ft-Lbs).
10. Remove the wheel on the other side of the vehicle and secure that brake rotor with two wheel nuts (or bolts) and conical rings.
11. Remove the brake pedal depressor.
12. Check the thickness of the brake rotor, to ensure that the rotor will not be below minimum thickness after machining.
13. Refer to the service manual for the minimum brake rotor thickness.
14. If the brake rotor is below minimum thickness, it must be replaced. Machining of a rotor below minimum thickness is not permitted.
15. If the brake rotor is thicker than the discard size, determine the maximum amount that could be machined off, for each side of the brake rotor.
16. Remove the complete brake caliper and hang it on the S-hook, Fig. 32.
17. Check that the brake line and caliper do not come in contact with the drive shaft (or any other rotating part).
18. Remove rust and dirt from the mounting surface of the caliper mounting lugs.
The lugs must be clean, as they are the reference point for machining the brake surface.
19. Fit the rubber silencer band around the outer edge of the brake rotor to help reduce noise and vibration, Fig. 33. Use the black, red, yellow or green silencer band. Or use a combination of these.
20. Connect the cable to the Drive Unit and the mains power supply.
21. Connect the 36V cable between Drive Unit and Lathe.
22. Set the motor switch to position 0, then unlock the emergency switch.
23. Move the slides and bit holders of the Lathe in the most rear position. (with adjustment knobs cutting depth and << or >> on the control panel. The green LED of the Lathe should be on.
24. In this position the tool bits cannot be damaged by touching the brake rotor.

4. Fitting Mounting Adapter

4.1 Choose the inserts

Vehicle knuckle:
Without thread

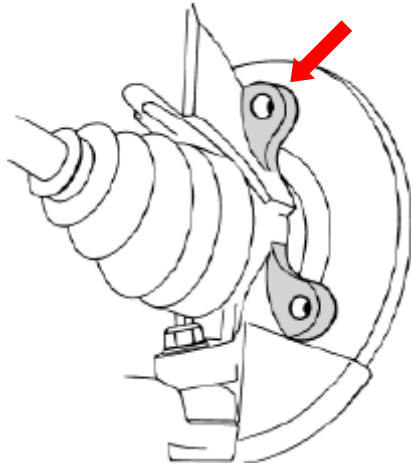


Fig. 34

Adapter:
Use **inserts with thread**

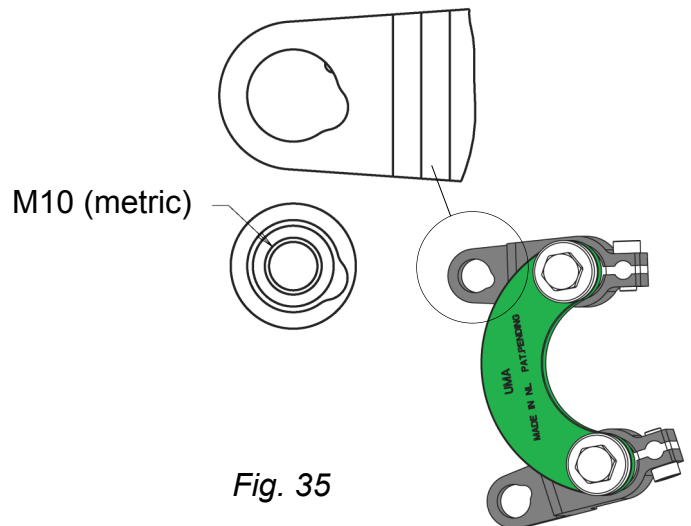


Fig. 35

Vehicle knuckle:
With thread

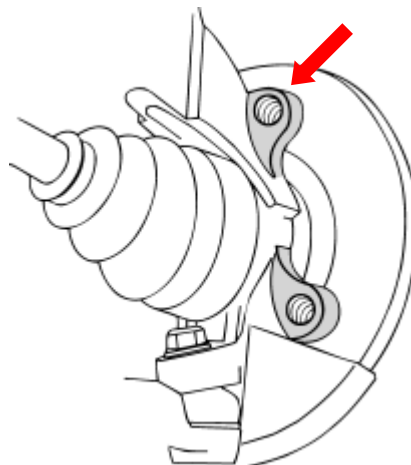


Fig. 36

Adapter:
Use **inserts without thread**, in the correct size:

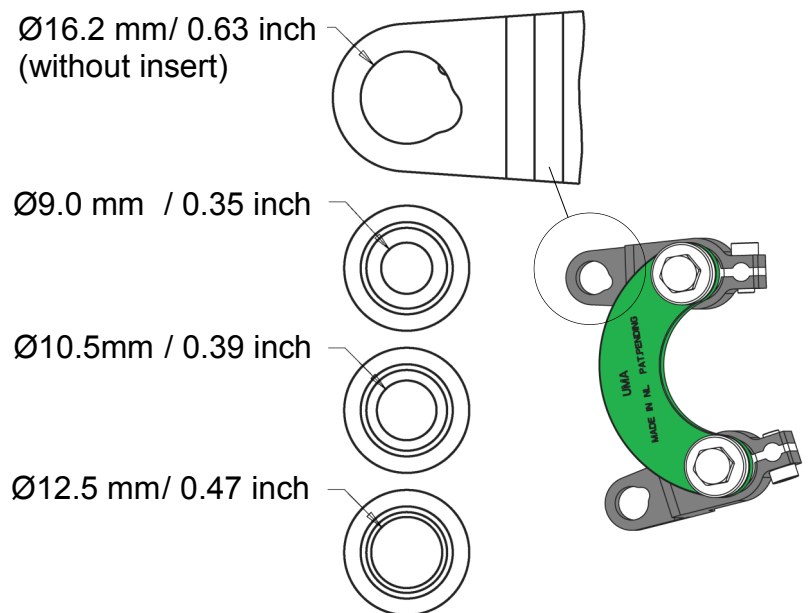


Fig. 37

4.2 Choose the Z-brackets

For normal size rotors and knuckles.

Short adapter:

Use z-brackets 39 and 40.

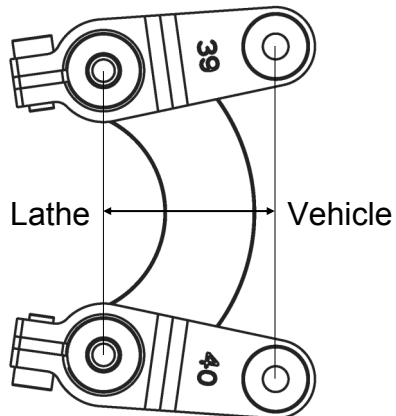


Fig. 38

For large rotors and/or deep placed knuckle mounting position.

Long adapter:

Use z-brackets 41 and 42.

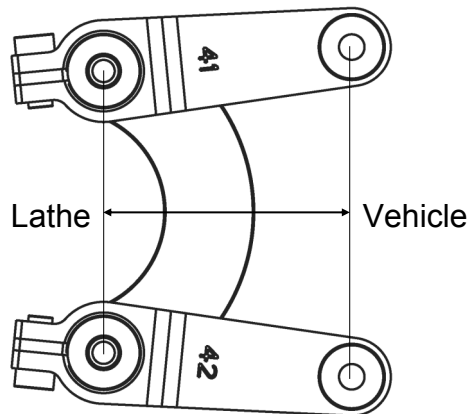


Fig. 39

In some occasions it may be needed to go between short and long:

Medium adapter:
Use z-brackets 39 and 42
or: 40 and 41

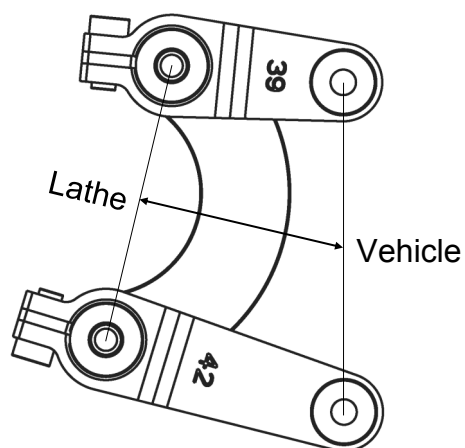


Fig. 40

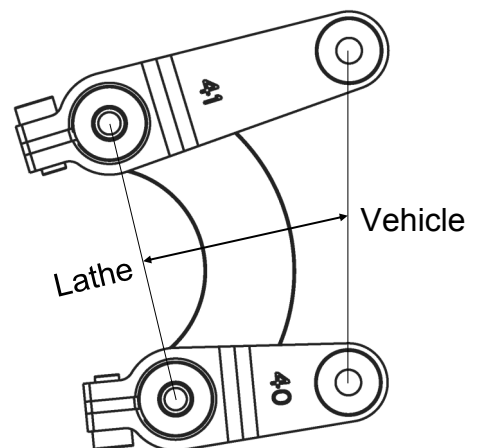


Fig. 41

4.3 Assemble the adapter

- A. Connector bow
- B. Z-bracket short (39-40) or long (41-42)
- C. Inserts with- or without thread

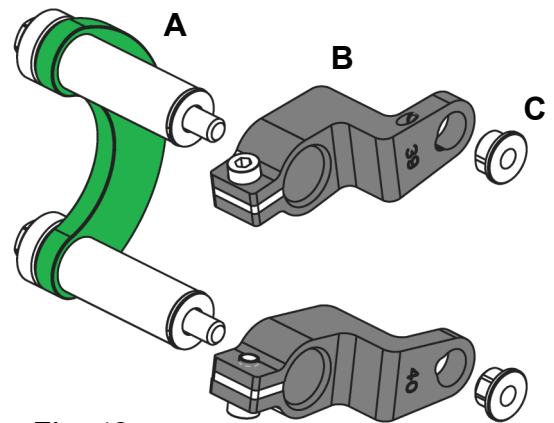


Fig. 42

4.4 Fit and adjust the adapter

1. Check the space between lathe and rotor: Keep the space between lathe and rotor short as possible, but minimal 5 mm (0.04 inch). Fig 43.
2. Possibilities to correct this dimension;
 - Choose the Lathe long side or short side
 - Use the adapter with longer or shorter z-bracket(s) Fig 38-41.
3. Do not use air tools when mounting or removing the mounting adapter and/or the Lathe.
4. Fit the adapter on the car and adjust the adapter height

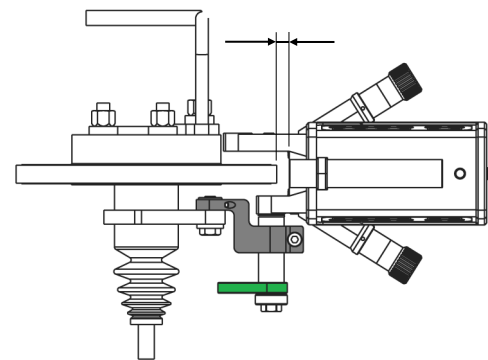


Fig. 43

Adapter with M10 metric inserts;

Mount the adapter to the brake caliper ears, using the M10 bolts supplied, Fig 34-35.

Adapter with 9, 10.5, 12.5 mm or no inserts;

Using the original caliper bolts, mount the adapter to the threaded caliper ears, Fig. 36-37.

- a. Face the bow toward the axle.
 - b. Ensure the correct-length bolts are used. When the bolts are fully inserted, they must not touch the brake rotor.
 - c. If necessary, use the spacer tubes provided to achieve the correct bolt length.
 - d. Ensure the slide piece hex head bolts are loose.
5. Position the slide piece in the center of the hub. Then hand tighten the UMA mounting adapter M10 bolts, Fig. 44.

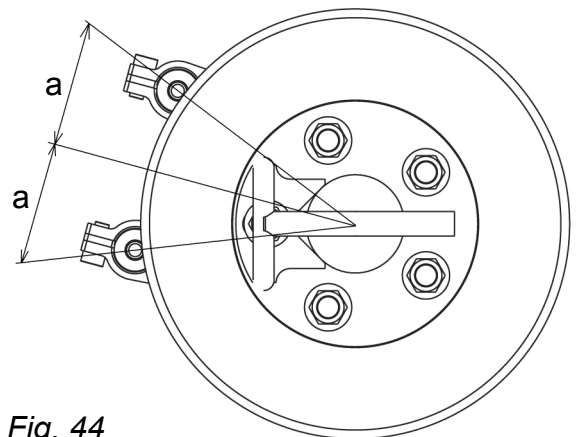


Fig. 44

5. Fitting the Lathe on the adapter

1. Bring the Lathe into correct position, Fig. 43.
2. If necessary mount the Lathe upside down, Fig. 48-49.
3. Mount the Lathe on the slide piece by using the hand knobs.
4. Position the lathe so that the Lathe centerline is aligned with the brake rotor centerline. Fig 45-47.
5. Ensure the Lathe does not make contact with the brake rotor.
6. To secure the slide piece to the mounting bracket, tighten one of the hex-head bolts using the hex T-spanner wrench provided.
7. Tighten all brake caliper bolts in the following order, to the specified torque:
 - a. M10 mounting bolts or larger (original brake caliper bolts): torque to 50 Nm (37 Ft-Lbs) (red mounting adapter).
 - b. M8 mounting bolts: torque to 25 Nm (18 Ft-Lbs).
 - c. M9 mounting bolts: torque to 30 Nm (22 Ft-Lbs).
 - d. Hand knobs: torque to 50 Nm (37 Ft-Lbs).
 - e. Mounting adapter hex-head bolts: torque to 25 Nm (18 Ft-Lbs).
8. Verify the brake rotor rotates freely with no parts dragging or coming in contact with other parts.

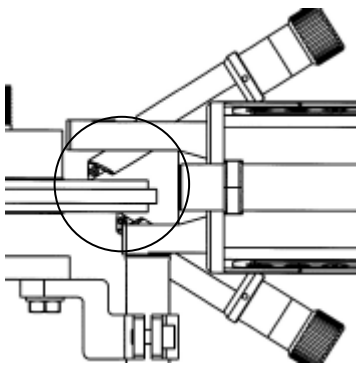


Fig. 45

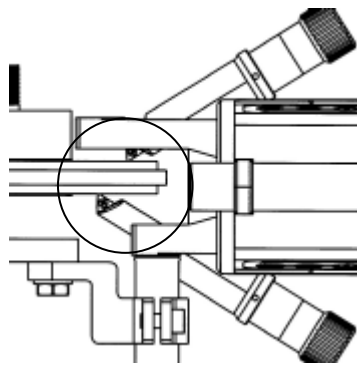


Fig. 46

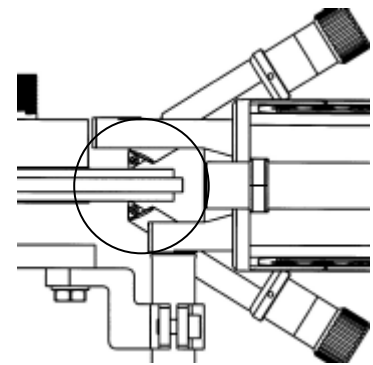


Fig. 47

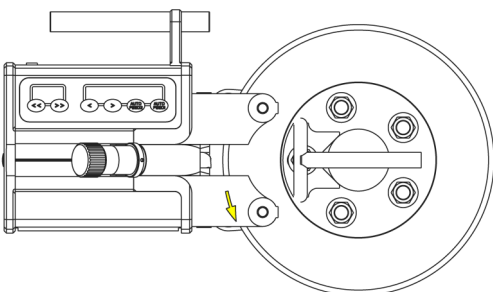


Fig. 48

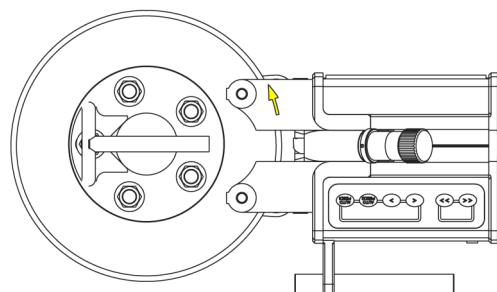


Fig. 49

5.1 Examples

Adapter with short z-brackets and with M10 metric insert, on hub with normal rotor size.

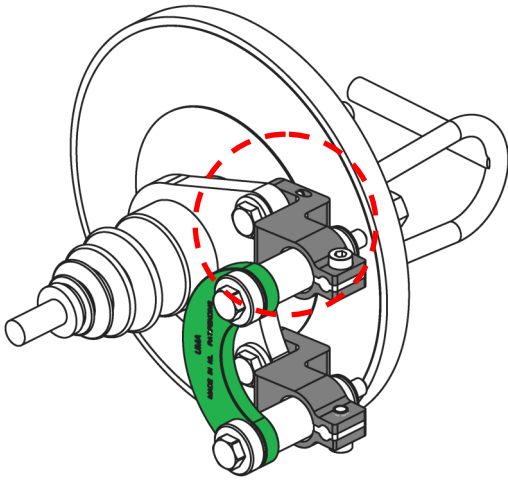


Fig. 50

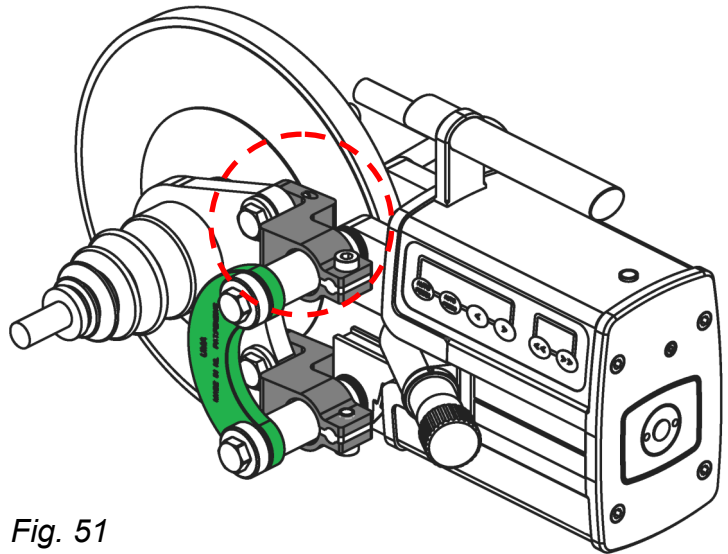


Fig. 51

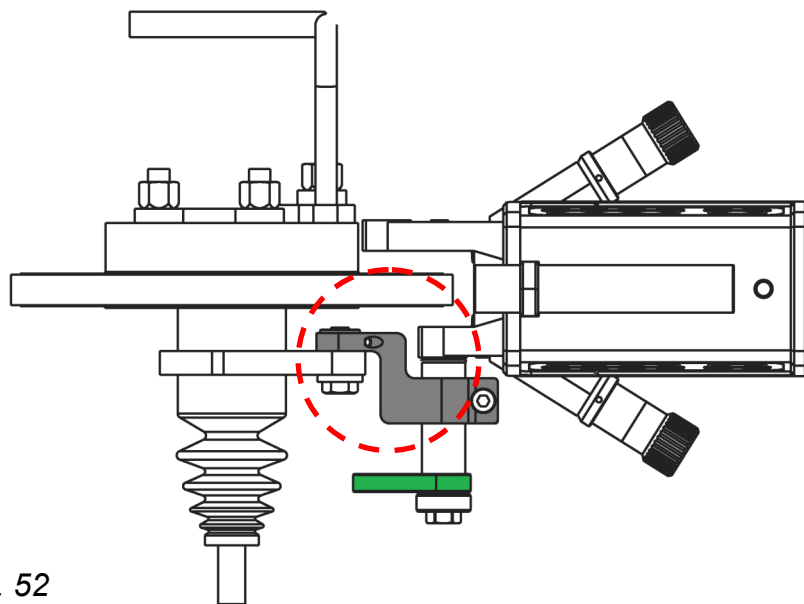


Fig. 52

Adapter with long z-brackets and with M10 metric insert, on hub with large rotor size.

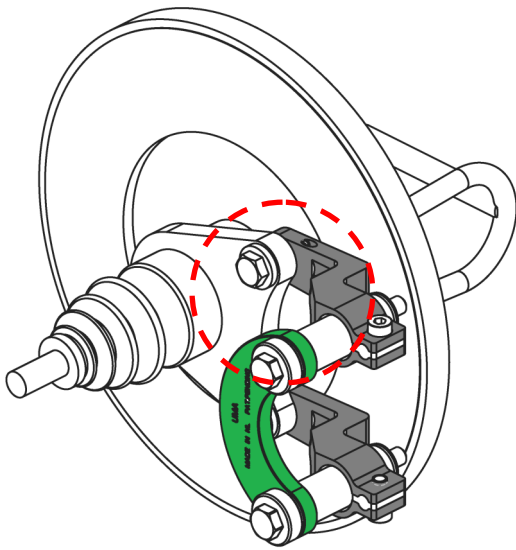


Fig. 53

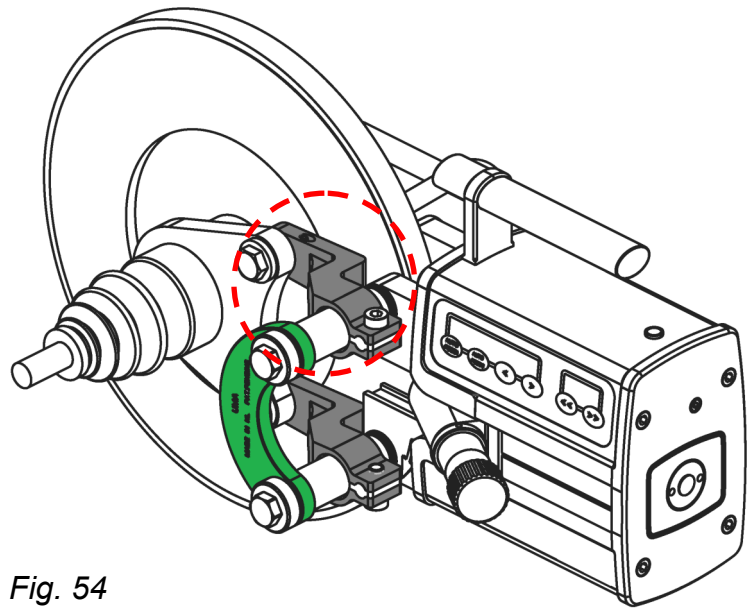


Fig. 54

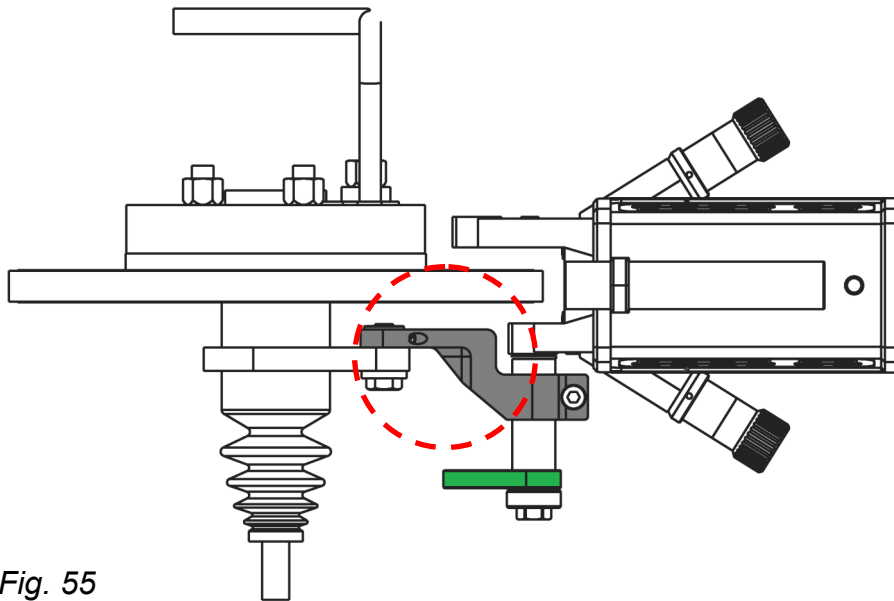


Fig. 55

Adapter with short z-brackets and with insert without thread, on hub with normal rotor size.

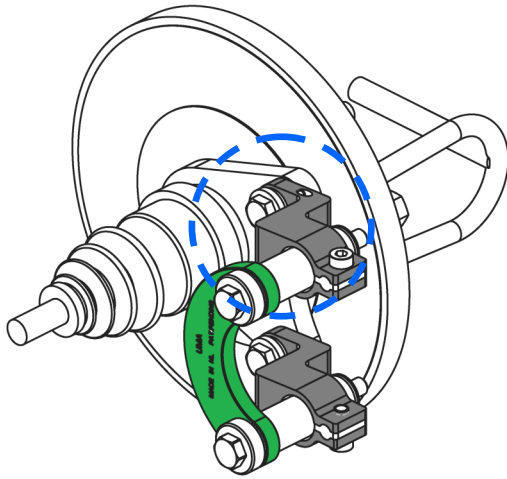


Fig. 56

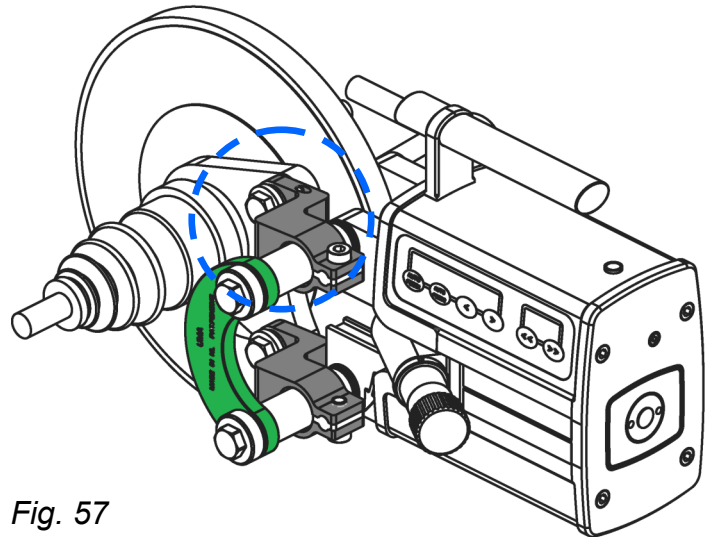


Fig. 57

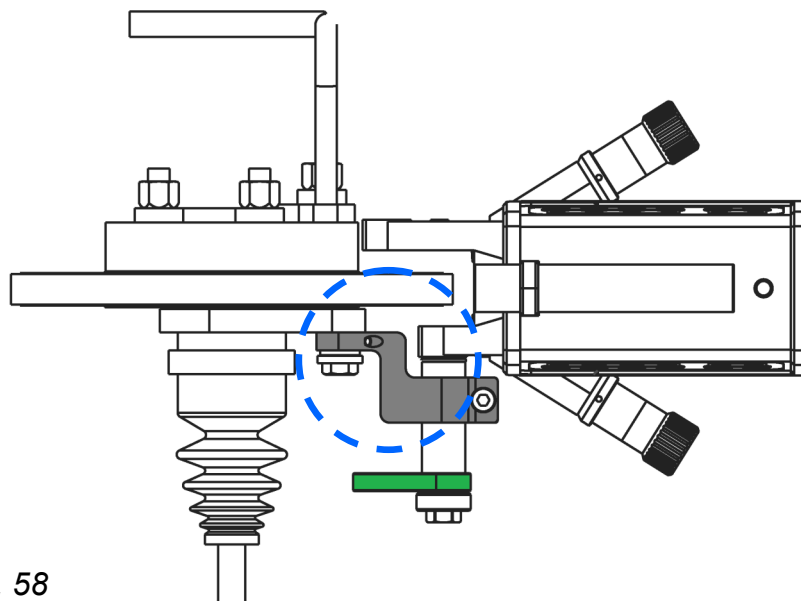


Fig. 58

Adapter with long z-brackets and with insert without thread, on hub with large rotor size.

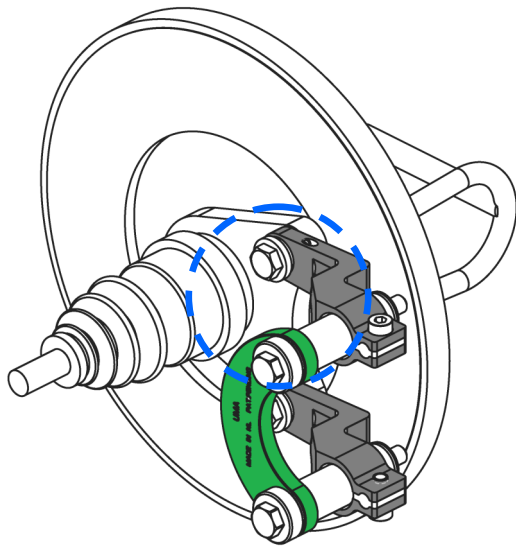


Fig. 59

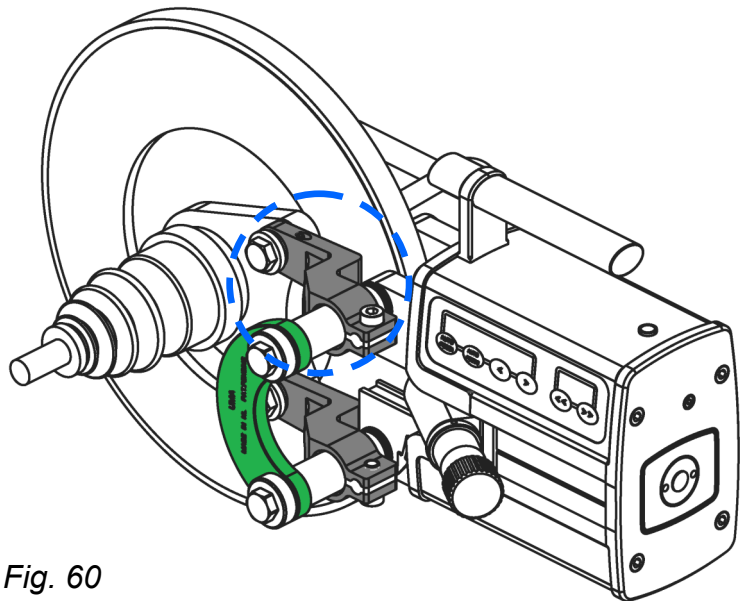


Fig. 60

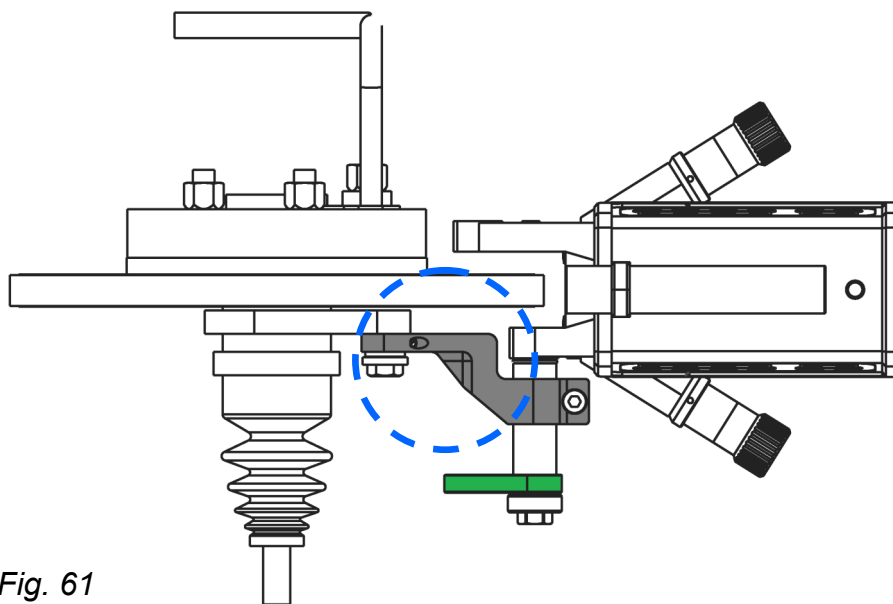


Fig. 61

6. Positioning OCL8850 Drive Unit

1. Align the lathe drive unit with the hub of the rotor.
2. Position the Drive Unit to the correct height, by grasping the hand grip on the drive unit and sliding the unit up or down along the mounting post. See Fig. 18.
3. Slide the drive yoke onto the drive adapter, leaving a 5 mm (0.2 inch) space, Fig. 62(A). Drive yoke must align with the center of the hub.
4. Lock the caster wheels to lock the stand in place, Fig. 62(B).
5. Check that the brake rotor is free to rotate, with no parts dragging or blocking.
6. **NOTE:** The drive shaft and brake rotor on the other side of the vehicle could start turning when the lathe drive unit is turned on.

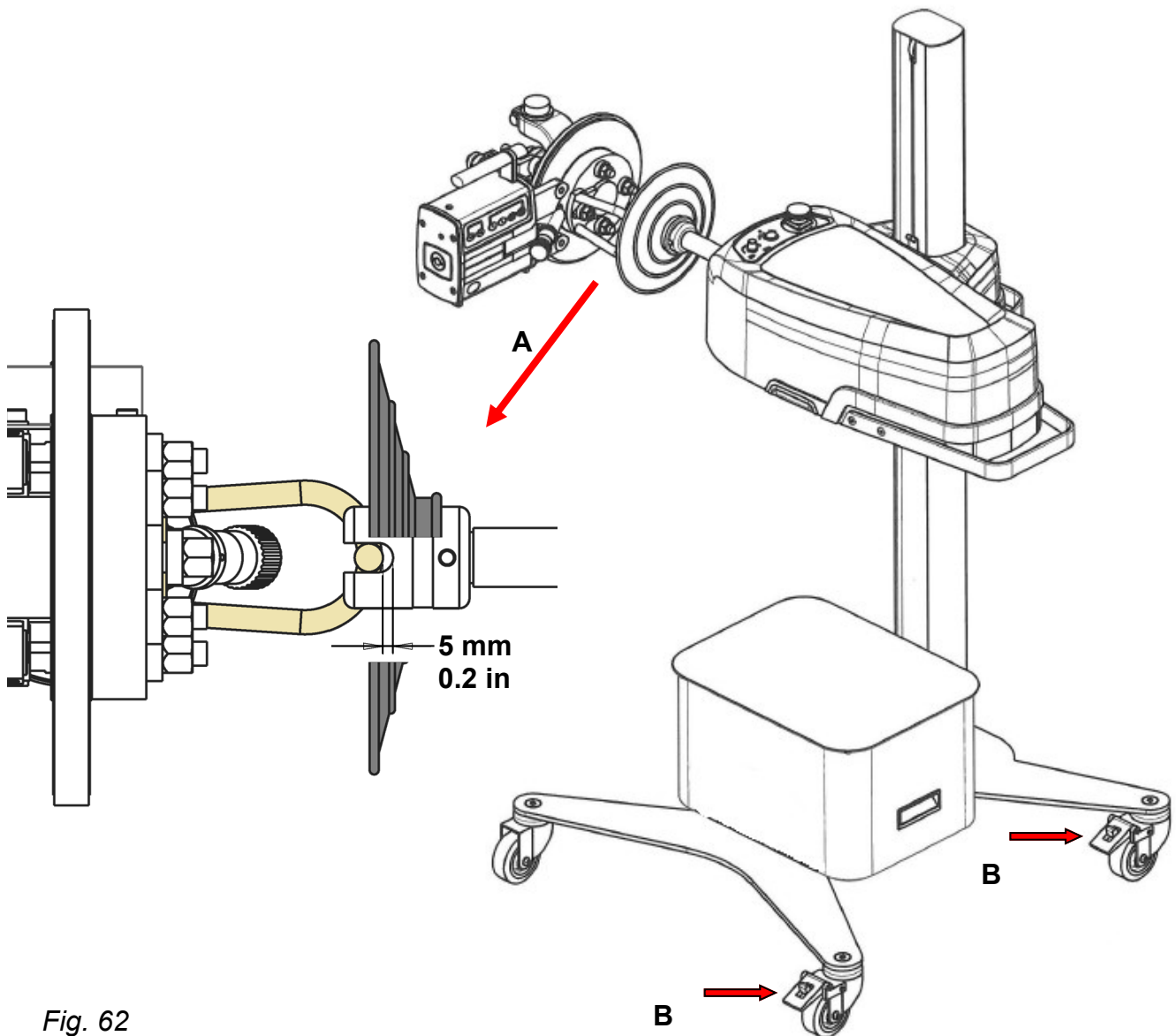


Fig. 62

7. Machining

1. Determine the correct rotation direction of the Drive Unit, see arrow on the Lathe, Fig. 63.
2. Place the motor switch on the drive unit to the desired rotation direction. Depending on vehicle type, set the maximum turning speed to:
 - 4WD vehicles - maximum turning speed 130 rpm
 - All other vehicles - maximum turning speed 160 rpm
3. If there are large wear ridges on either surface of the brake rotor, remove the ridges without exceeding the maximum cutting depth.
4. Operate the slides of the Lathe until the tool bits are at the middle of the brake surface.
5. Slowly turn the adjustment knobs clockwise, until the tool bits just begin cutting into the brake rotor.
6. Move the slides carefully to the hub of the brake rotor, Fig. 64.
7. When using the positive-angle tool bit, the adjustment knob may be turned a maximum of 16 clicks.
8. When using the straight-tool bit, the adjustment knob may be turned a maximum of 4 clicks.
9. One click equals 0.05 mm (0.002 inch). Fig. 63.
10. Set the adjustment knobs (clockwise) on the selected value (minimal 0.05 mm, maximal 0.8 mm), (minimal 0.002 inch, maximal 0.03 inch).
11. Select autofeed 1 or autofeed 2 (normal use). Fig. 16.
12. Start the autofeed by pushing the autofeed button once.
13. After machining, stop the Lathe by pushing the autofeed button a second time.
14. Then stop the drive unit, by placing the drive switch to 0.
15. Verify that both sides of the rotor are completely machined.
16. Repeat the machining if necessary.
17. Check that the brake rotor is not machined thinner than the specified replacement size indicated in the repair manual. If the brake rotor is thinner than allowed, the rotor must be replaced.

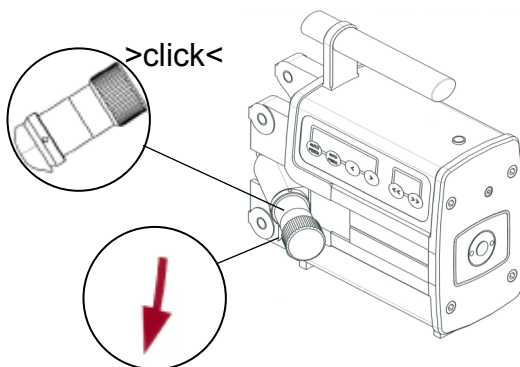


Fig. 63

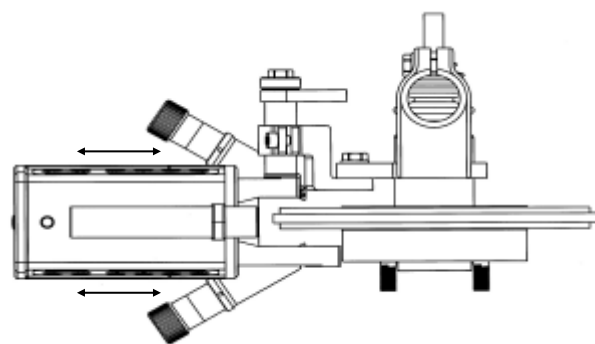


Fig. 64

8. Follow-up

1. Rotate the adjustment knobs counterclockwise until the tool bit holders are completely retracted.
2. Retract the slides by pressing the << or >> button.
3. Disconnect the 36V power cable and mains cable.
4. Remove the Lathe.
5. Remove the mounting adapter, by removing the mounting bolts in reverse order.
6. Remove the rubber silencer from the brake rotor, Fig. 65.
7. Remove the drive adapter from the hub.
8. Note that the brake rotor must remain mounted to the hub with at least two wheel nuts/bolts.
9. Repeat the procedure on the brake rotor on the other side of the vehicle.
10. To prevent unbalanced braking, always machine both brake rotors on the same axle.
11. Clean the surrounding area of the brake rotor and make sure there are no metal chips on the ABS components.
12. Make the brake pad surfaces parallel and flat. Replace the brake pads when necessary.
13. Install the brake pads and brake calipers according to the repair manual, Fig. 66.
14. In some cases locking fluid or replacing of the caliper bolts is prescribed in the repair manual, every time the bolts are removed.
15. Torque the caliper bolts according to the repair manual.
16. Pump the brake pedal a few times to set the brake pads and rotor.
17. Place a brake pedal depressor to lock the brake rotor.
18. Remove the wheel nuts/bolts and the conical rings. Fig.67-68.
19. Install the wheel according instructions in the repair manual.
20. Tighten the wheel nuts/bolts to the specified torque setting.
21. Check the brake fluid level and top off the fluid level as specified in repair manual.

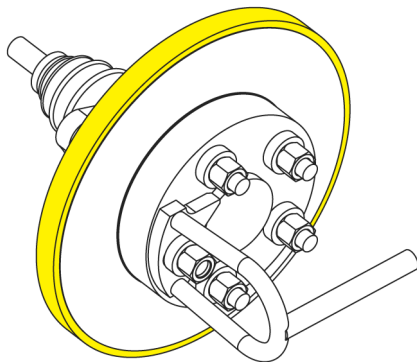


Fig. 65

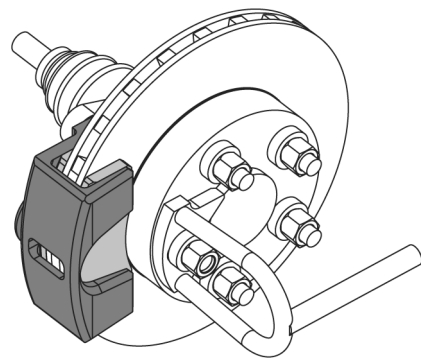


Fig. 66

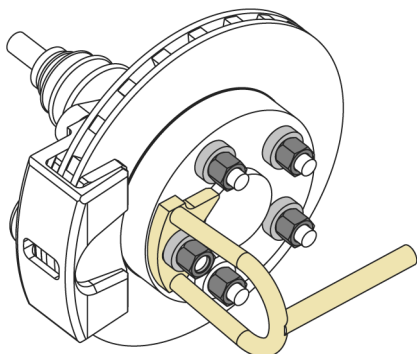


Fig. 67

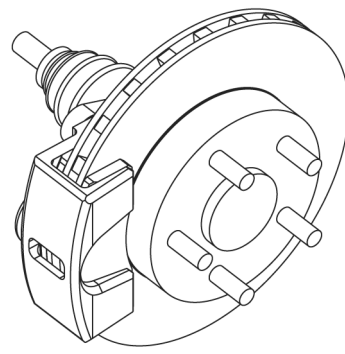


Fig. 68

9. Maintenance

Before carrying out maintenance activities, read the safety regulations contained in this manual.

- A. Ensure the bits are sharp and not damaged prior to each use. The bits should be rotated frequently and replaced every 10 vehicles.
- B. Clean the slides every 10 vehicles. Clean the guides between the block and the slide with a brush, then apply a small amount of Lathe oil.
- C. Clean the bit holder every 50 vehicles. To do this, first turn the adjustment knob counterclockwise until the bit holder is completely out of the slide. Then clean and lightly grease the holder. When reinstalling the bit holder, point the slot toward the outside of the Lathe
- D. On a weekly schedule, inspect cables and extension cables for damage and immediately replace them as necessary.

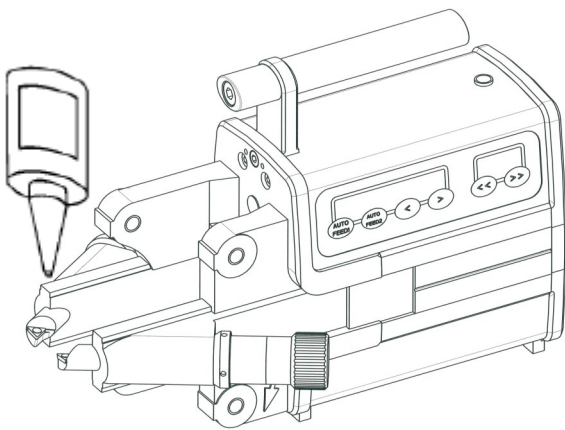


Fig. 69

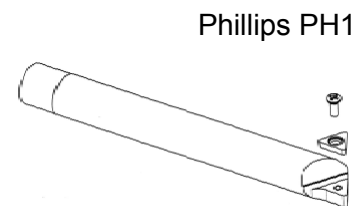


Fig. 70

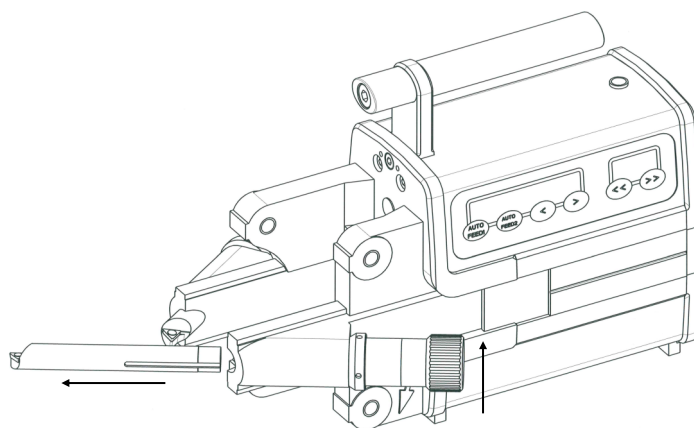


Fig. 71

10. Troubleshooting

Trouble	Cause	Solution
Rough surface or her-ringbone effect	Vibration	<ul style="list-style-type: none"> • Check rubber silencer band • Check Lathe mounting • Tighten all bolts M10 and larger with torque 50 Nm (37 Ft-Lbs) before starting work • Use conical ring • Mount Lathe close to the hub
	Wheel bearing play	Set/replace
	Cutting depth too deep	<ul style="list-style-type: none"> • Maximum 0.2 mm (0.8 mm with pos. angle tool bit) • Maximum 0.008 inch (0.03 inch with pos. angle tool bit)
	Worn tool bit	Turn or replace
	Tool bit loose	Tighten screw
	Wrong direction of rotation	See arrow on Lathe
Drive unit not stable	Not aligned with drive adapter	Align
	Drive adapter does not center	Re-install and center

Tab. 1.

- Wheel nuts/bolts should always be evenly tightened.
- In the event of an electrical failure, temporary operation of the slides is possible by first inserting a 6mm Allen wrench in the hole in the back plate and turning the screw with the wrench.

11. Tips / Spare Parts

11.1 Tips

- While assembling the Lathe, ensure that the spacing between the brake caliper ears and Lathe is even both above and below.
- Rotate or change the bits frequently to ensure a fresh, sharp cutting edge.
- Prior to machining, verify that the bits will be able to machine the entire surface of the brake rotor.
- A special brochure detailing various options for your lathe is available through your supplier.

11.2 Spare parts

- Replacement parts can be ordered through your supplier. When ordering parts, refer to the parts list included with the lathe. Please provide the lathe serial number when ordering.
- Store this instruction manual and parts list in the storage box of the Lathe.

12. Electrical Diagram

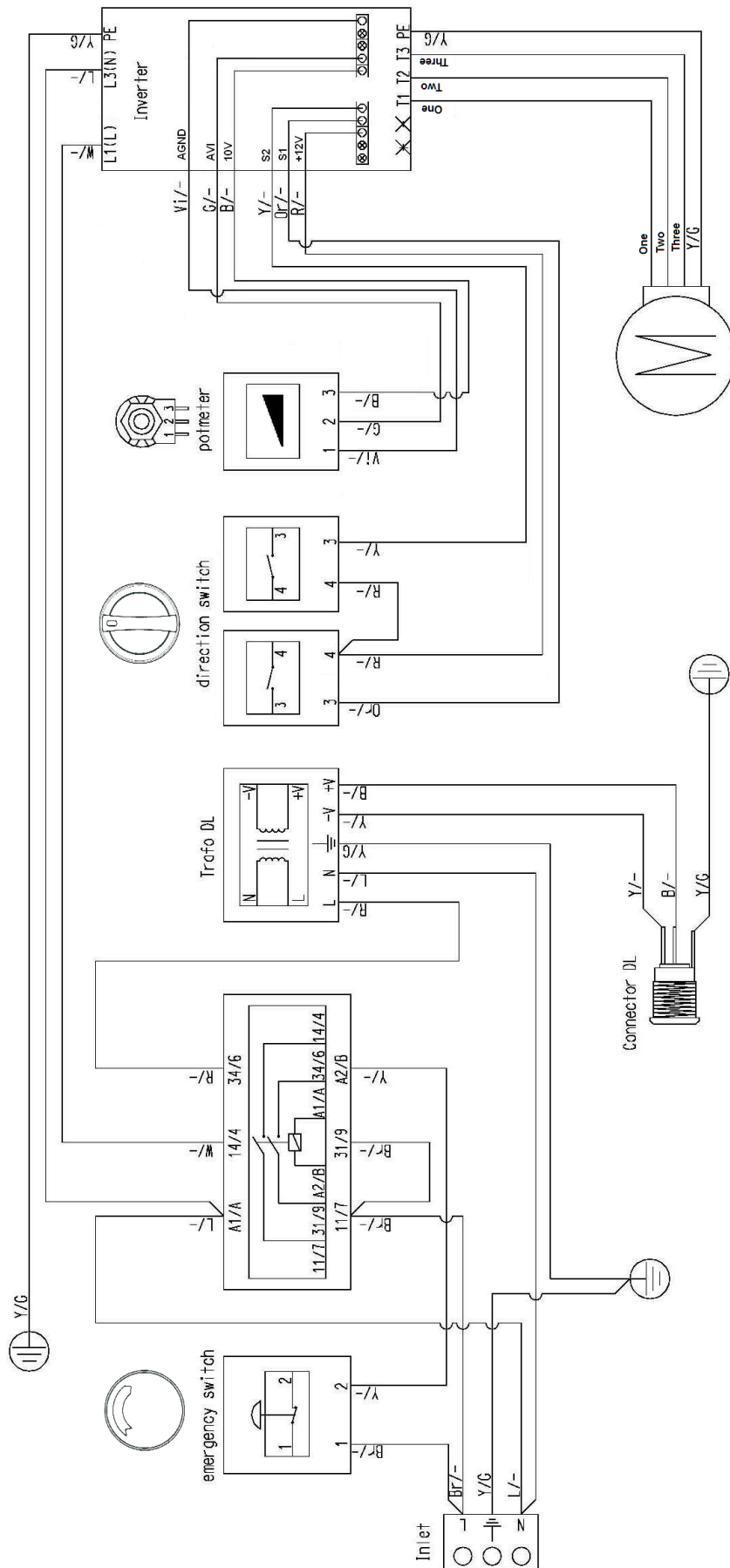


Fig. 72

13. Technical Specifications

OCL8850 Lathe	
Maximum brake rotor thickness	41 mm (1.61 inch)
Adjustment knob cutting depth accuracy	0.05 mm (0.002 inch)
Feed rate	6, 12, 50, 475 mm/min. (0.24, 0.47, 1.97, 18.7 inch/min.)
Electrical specifications	See information plate
Net weight	7.7 kg (17 Lbs)
OCL8850 Drive Unit	
Working height min./max.	45 - 125 cm (18 - 49 inch)
Drive speed	80 - 160 rpm
Net weight	52 kg (115 Lbs)
Electrical specifications	See information plate
Ambient temperature range	-5°C to 40°C (23°F to 104°F)
Year of construction	See information plate
Turning accuracy	
Brake rotor runout	0.002 mm (79 microinch)
Brake rotor thickness variation	0.002 - 0.005 mm (79 - 197 microinch)
Brake rotor surface roughness	Ra 1.0 - 2.0 µm (39 - 79 microinch)
Noise level, excluding a space correction factor of 4 dB(A) (NEN-ISO 11204 en ISO 3746)	74 dB(A)

Tab.2.

14. Notes

