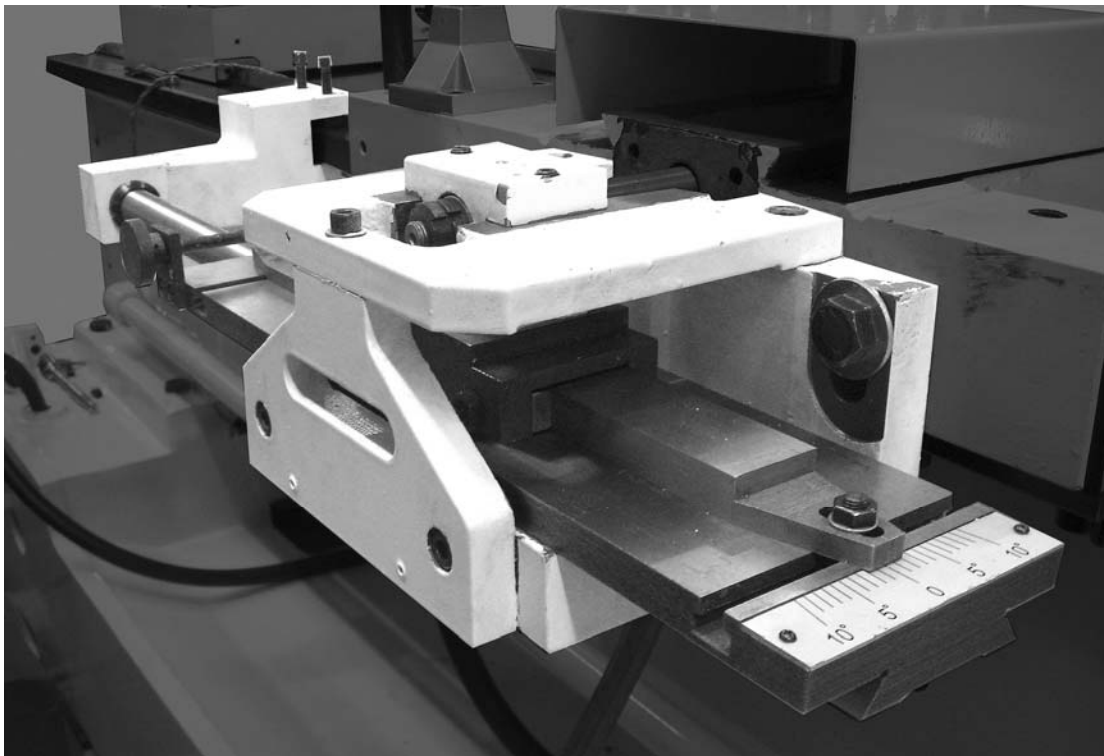




Assembly Instructions and Parts Manual Taper Attachment for ZH Lathes



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Part No. M-321293

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1.0 Warranty and Service

JET, Wilton and Powermatic warrants every product they sell against manufacturers' defects. If one of our tools needs service or repair, please contact Technical Service by calling 1-800-274-6846, 8AM to 5PM CST, Monday through Friday

Warranty Period

The general warranty lasts for the time period specified in the literature included with your product or on the official JET, Wilton or Powermatic branded websites.

- JET, Wilton and Powermatic products carry a limited warranty which varies in duration based upon the product. (See chart below)
- Accessories carry a limited warranty of one year from the date of receipt.
- Consumable items are defined as expendable parts or accessories expected to become inoperable within a reasonable amount of use and are covered by a 90 day limited warranty against manufacturer's defects.

Who is Covered

This warranty covers only the initial purchaser of the product from the date of delivery.

What is Covered

This warranty covers any defects in workmanship or materials subject to the limitations stated below. This warranty does not cover failures due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair, alterations or lack of maintenance.

Warranty Limitations

Woodworking products with a Five Year Warranty that are used for commercial or industrial purposes default to a Two Year Warranty. Please contact Technical Service at 1-800-274-6846 for further clarification.

How to Get Technical Support

Please contact Technical Service by calling 1-800-274-6846. **Please note that you will be asked to provide proof of initial purchase when calling.** If a product requires further inspection, the Technical Service representative will explain and assist with any additional action needed. JET, Wilton and Powermatic have Authorized Service Centers located throughout the United States. For the name of an Authorized Service Center in your area call 1-800-274-6846 or use the Service Center Locator on the JET, Wilton or Powermatic website.

More Information

JET, Wilton and Powermatic are consistently adding new products. For complete, up-to-date product information, check with your local distributor or visit the JET, Wilton or Powermatic website.

How State Law Applies

This warranty gives you specific legal rights, subject to applicable state law.

Limitations on This Warranty

JET, WILTON AND POWERMATIC LIMIT ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

JET, WILTON AND POWERMATIC SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

JET, Wilton and Powermatic sell through distributors only. The specifications listed in JET, Wilton and Powermatic printed materials and on official JET, Wilton and Powermatic-branded websites are given as general information and are not binding. JET, Wilton and Powermatic reserve the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever. JET® branded products are not sold in Canada by Walter Meier Manufacturing Americas.

Product Listing with Warranty Period

90 Days – Parts; Consumable items; Light-Duty Air Tools
1 Year – Motors; Machine Accessories; Heavy-Duty Air Tools; Pro-Duty Air Tools
2 Year – Metalworking Machinery; Electric Hoists, Electric Hoist Accessories
5 Year – Woodworking Machinery
Limited Lifetime – Wilton branded products; JET Parallel clamps; Manual Hoists; Manual Hoist Accessories; Shop Tools; Warehouse & Dock products; Hand Tools

NOTE: JET, Wilton and Powermatic are divisions of Walter Meier Manufacturing Americas. References in this document to JET, Wilton and/or Powermatic also apply to Walter Meier Manufacturing Americas or any of its successors in interest to the JET, Wilton and/or Powermatic brands.



2.0 Safety warnings

1. Read and understand the entire owner's manual before attempting assembly or operation.
2. Read and understand the warnings posted on the machine and in this manual. Failure to comply with all of these warnings may cause serious injury.
3. Replace the warning labels if they become obscured or removed.
4. The lathe is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe operation of a lathe, do not use until proper training and knowledge have been obtained.
5. Do not use the lathe for other than its intended use. If used for other purposes, Walter Meier (Manufacturing) Inc., disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
6. Always wear approved safety glasses/face shields while using the lathe. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
7. Before operating the lathe, remove tie, rings, watches and other jewelry, and roll sleeves up past the elbows. Remove all loose clothing and confine long hair. Non-slip footwear or anti-skid floor strips are recommended. Do **not** wear gloves.
8. Wear ear protectors (plugs or muffs) during extended periods of operation.
9. Some dust created by power sanding, sawing, grinding, drilling and other construction activities contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead based paint.
 - Crystalline silica from bricks, cement and other masonry products.
 - Arsenic and chromium from chemically treated lumber.Your risk of exposure varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area and work with approved safety equipment, such as face or dust masks that are specifically designed to filter out microscopic particles.
10. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
11. Make certain the switch is in the **OFF** position before connecting the machine to the power supply.
12. Make certain the machine is properly grounded.
13. Make all machine adjustments or maintenance with the machine unplugged from the power source.
14. Remove adjusting keys and wrenches. Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.
15. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately after maintenance is complete.
16. Check damaged parts. Before further use of the machine, 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, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
17. Provide for adequate space surrounding work area and non-glare, overhead lighting.
18. Keep the floor around the machine clean and free of scrap material, oil and grease.
19. Keep visitors a safe distance from the work area. **Keep children away.**
20. Make your workshop child proof with padlocks, master switches or by removing starter keys.
21. Give your work undivided attention. Looking around, carrying on a conversation and "horse-play" are careless acts that can result in serious injury.
22. Maintain a balanced stance at all times so that you do not fall or lean against moving parts. Do not overreach or use excessive force to perform any machine operation. Never force the cutting action.
23. Maintain a balanced stance at all times so that you do not fall or lean against moving parts. Do not overreach or use excessive force to perform any machine operation. Never force the cutting action.
24. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and more safely.
25. Use recommended accessories; improper accessories may be hazardous.


26. Maintain tools with care. Keep cutting tools sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
27. Do not attempt to adjust or remove tools during operation.
28. Never stop a rotating chuck or workpiece with your hands.
29. Choose a low spindle speed when working unbalanced workpieces, and for threading and tapping operations.
30. Do not exceed the maximum speed of the workholding device.
31. Do not exceed the clamping capacity of the chuck.
32. Workpieces longer than 3 times the chucking diameter must be supported by the tailstock or a steady rest.
33. Avoid small chuck diameters with large turning diameters.
34. Avoid short chucking lengths and small chucking contact.
35. Turn off the machine and disconnect from power before cleaning. Use a brush to remove shavings or debris — do not use your hands.
36. Do not stand on the machine. Serious injury could occur if the machine tips over.
37. Never leave the machine running unattended. Turn the power off and do not leave the machine until moving parts come to a complete stop.
38. Remove loose items and unnecessary work pieces from the area before starting the machine.
39. Do not operate the lathe in flammable or explosive environments. Do not use in a damp environment or expose to rain.

3.0 About this manual

This manual is provided by Walter Meier (Manufacturing) Inc., covering the proper assembly and maintenance procedures for a JET Taper Attachment for the ZH Series Lathes. This manual contains instructions on installation, safety precautions, and parts breakdown. The taper attachment has been designed and constructed to provide years of trouble-free operation if used in accordance with the instructions as set forth in this document.

If there are questions or comments, please contact your local supplier or Walter Meier. Walter Meier can also be reached at our web site: www.waltermeier.com.

Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.

 WARNING Read and understand the entire contents of this manual before attempting assembly or operation of the taper attachment. Also, completely familiarize yourself with all instruction materials that accompanied your lathe. Failure to comply with these warnings may cause serious injury.

4.0 Specifications

Model Taper Attachment for ZH Lathes
 Stock number 321293
 Length of taper without repositioning 180mm (7.1")
 Maximum oblique angle +/- 10°
 Weight 55 kg (121 lb)

5.0 Setup and assembly

Refer to exploded view if any clarification of procedure is needed.

1. Open carton and check product for shipping damage. If any is found, report it immediately to your distributor and shipping agent.

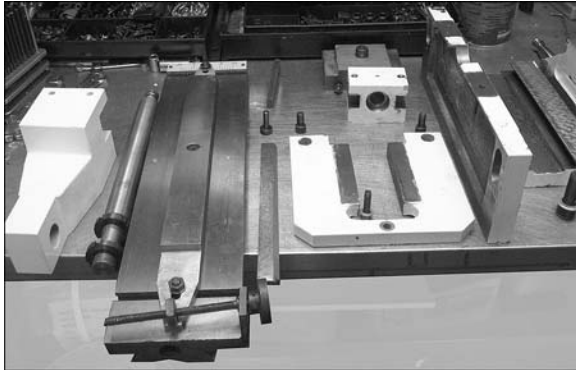


Figure 1

2. Disassemble taper attachment (Figure 1) and thoroughly clean all parts with a solvent, such as kerosene. (Do not use gasoline, acetone, or similar products which can damage paint finish.)
3. Lightly oil all exposed metal surfaces with machine tool oil.
4. Remove splash guard from lathe.

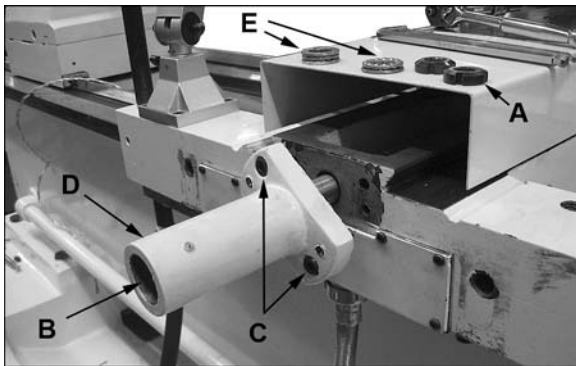


Figure 2

5. Remove two round nuts (A) and washer from end of cross-slide leadscrew (B).
6. Remove two socket head screws (C) and remove bearing housing (D), along with the two thrust bearings (E).

Keep bearings, washer, and round nuts for later reinstalling.

7. Attach main body of taper attachment (F) to carriage with two M16x55 hex head cap screws and washers (G). Tighten screws to hold main body in place, but loose enough to allow adjustment with a dead blow hammer or rubber mallet.

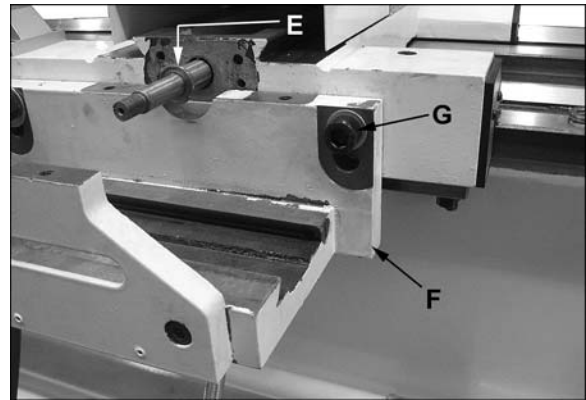


Figure 3

8. Slide inner thrust bearing (E) onto leadscrew.

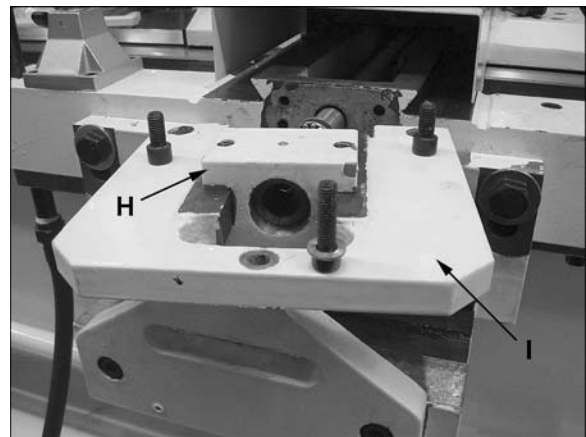


Figure 4

9. Center feed block (H) onto leadscrew, and install positioning plate (I). Fasten positioning plate to main body with three socket head cap screws. (The longer screw installs at back edge of plate – see Figure 4.)

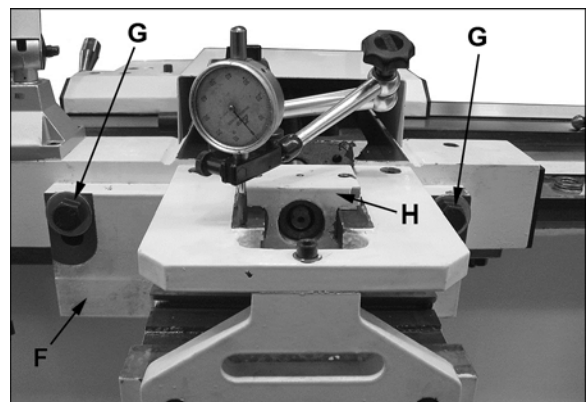


Figure 5

10. Check level on both sides of positioning plate with dial indicator, keeping feed block (H) centered on leadscrew. Bump either end of main body (F) with rubber mallet to level.
11. Firmly tighten two screws (G) on main body.



Figure 6

12. Position taper slide rest (J) up into feed block (H).

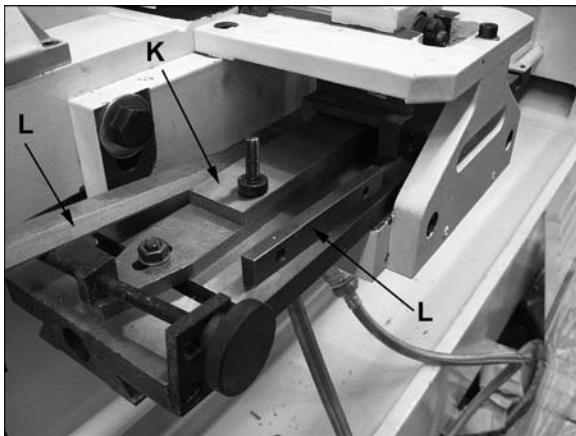


Figure 7

13. Install taper slide assembly (K) with two screws and install both gibs (L). Taper slide should move freely back and forth. There should be no play or binding when turning the cross feed handwheel.

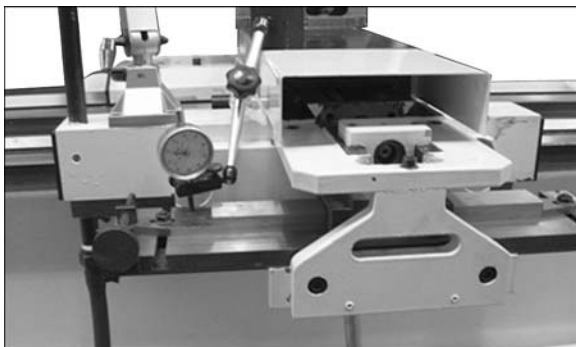


Figure 8

14. Use a dial indicator to level longitudinal slide on both ends.
15. Tighten screws on taper slide.



Figure 9

16. Install thrust bearing (E), washer, and both round nuts (A). Tighten round nuts. Make sure cross slide still has free movement.

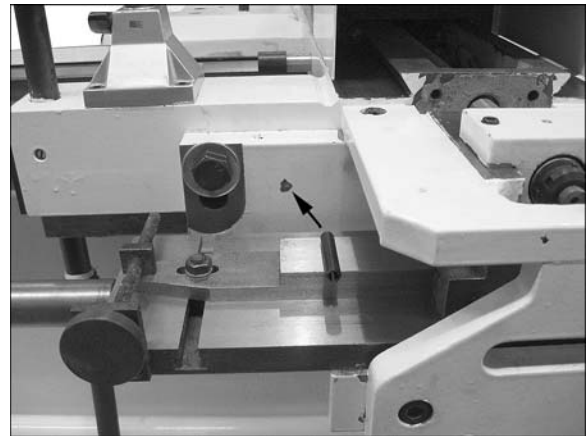


Figure 10

17. Drill a hole at both sides, and insert taper pins, making sure assembly remains level.

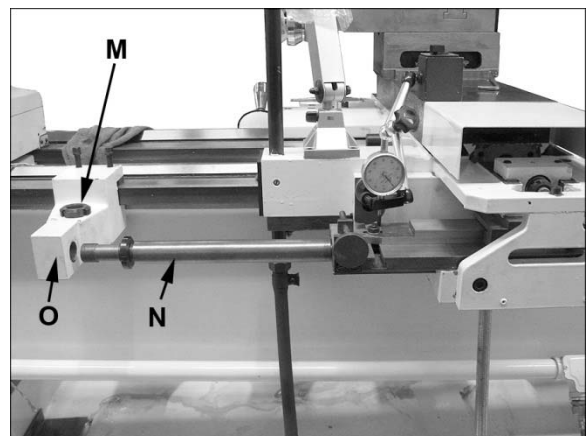


Figure 11

18. Remove outer nut (M) from clamp rod (N).
19. Install clamp rod (N) into taper slide.
20. Fasten clamp bracket (O) to lathe bed beyond the length of the clamp rod. Do not fully tighten.

21. Slowly move carriage back until clamp rod is through hole in the clamp. Install outer nut (M) on rod. Tighten clamp bracket (O) and clamp rod (N) at the same time, making sure not to pull down on slide.
22. Verify that assembly is tight, and cross slide does not bind.
23. The taper attachment is assembled and ready for use. Verify that it has been thoroughly oiled for proper operation and protection of exposed metal surfaces.

⚠ WARNING Read and understand all contents of your lathe manual before operating taper attachment.

6.0 Operation

To use taper attachment, tighten screws on clamp. Loosen screws when taper attachment is not in use; this allows standard turning operations without requiring removal of the taper attachment.

6.1 Setting taper angle

1. Loosen screws (A, Figure 12) at each end of slide.
2. Use fine adjustment knob (B, Figure 12) to set angle according to scale at end of slide.

Note: Scale settings will be sufficient for most work, but for close tolerances use a dial indicator and test bars.

3. Tighten the two screws (A) when desired angle is achieved.

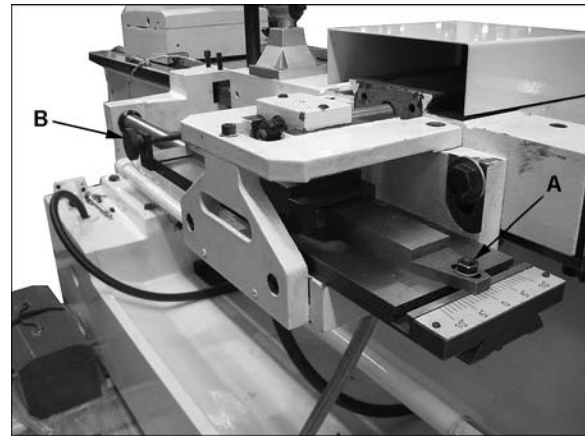


Figure 12

6.2 Gib Adjustments

Refer to exploded view, section 16.1.1.

1. To adjust the slide gib (#21), loosen nuts (#23) and turn screws (#22), as needed.
2. To adjust the larger gib (#7) turn the BB

7.0 Replacement Parts

To order parts or reach our service department, call 1-800-274-6848 Monday through Friday (see our website for business hours, www.waltermeier.com). Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

7.1.1 Taper Attachment (#321293) for ZH Lathes – Parts List

Index No	Part No	Description	Size	Qty
1	C6266C-15103	Clamp		1
2	GB83-M10x40	Square Cap Bolt	M10x40	2
3	C6266C-15102	Bracket		1
4	ZX-Q118	Round Nut	M24x1.5	2
5	C6266C-15707	Clamp Rod		1
6	C6266C-15711	Adjusting Bolt		2
7	C6266C-15710	Gib		1
8	GB118-10x40	Taper Pin	10x40 mm	2
9	CL1640ZX-0204	Hex Cap Bolt	M16x55	2
10	C6266C-15104	Slide Base		1
11	C6266C-15106	Bracket		1

12	GB118-6x40	Taper Pin	6x40 mm	2
13	TS-1505021	Hex Socket Cap Screw	M10x20	4
14	C6266C-15708	Feed Block		1
15	GB1155-6	Oil cup	6 mm	3
16	GB77-M10x14	Hex Socket Set Screw	M10x14	2
17	C6266C-15105	Positioning Plate		1
18	TS-1504061	Hex Socket Cap Screw	M8x30	1
19	C6266C-15709	Positioning Pin		2
20	C6266C-15107	Taper Slide Rest		1
21	C6266C-15108	Slide Gib		1
22	GB75-M8x30	Slotted Cylindrical End Set Screw	M8x30	2
23	TS-1540061	Hex Nut	M8	4
24	TS-1550061	Plain Washer	8 mm	2
25	C6266C-15702	Guide Plate		1
26	C6266C-15701	T-Bolt		2
27	C6266C-15101	Longitudinal Slide		1
28	C6266C-15301	Angle Scale		1
29	GB827-3x8	Rivet	3x8 mm	2
30	GB71-M8x18	Slotted Set Screw	M8x18	1
31	GB75-M6x8	Recessed Head Set Screw	M6x8	1
32	C6266C-15705	Positioning Plate		1
33	C6266C-15704	Screw		1
34	TS-209203	Roll Pin	3x20 mm	1
35	C6266C-15706	Knob		1
36	GB65-M6x16	Countersink Head Screw	M6x16	2
37	C6266C-15703	Guiding Block		1
38	TS-155010	Washer	16 mm	2

7.1.2 Taper Attachment (#321293) for ZH Lathes – Exploded View

