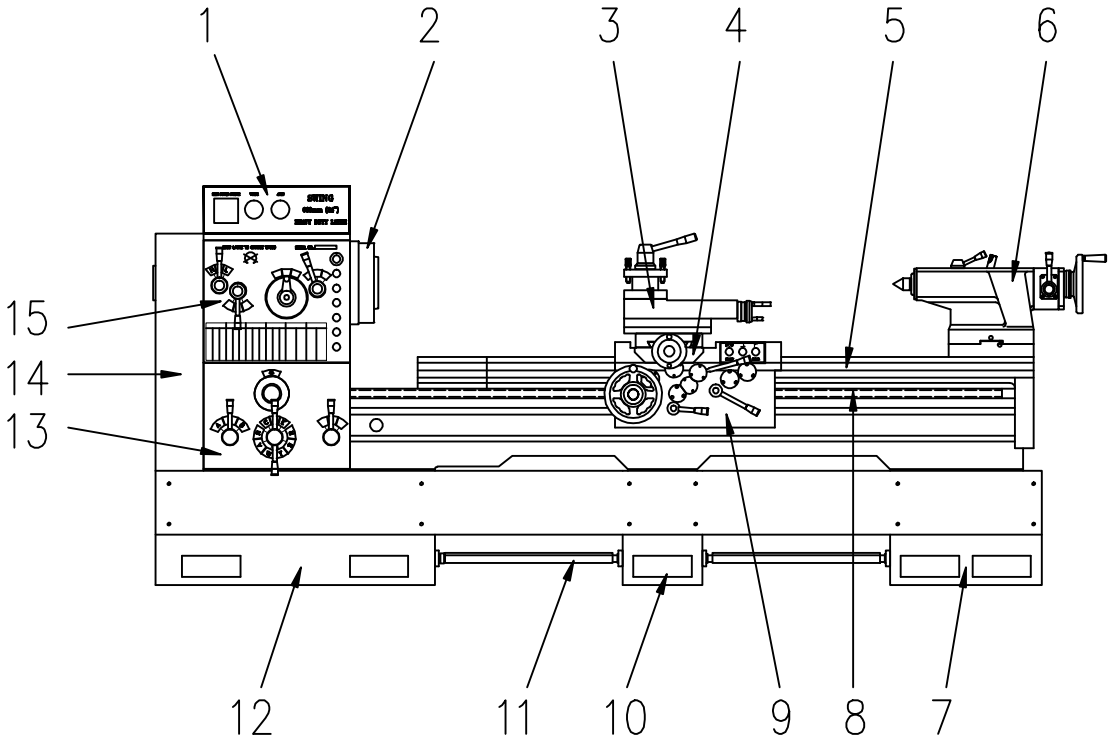
INDEX

SPECIFICATION AND ACCESSORIES

GENERAL LAYOUT OF LATHE



1.Electrical box
2.Spindle
3.Topslide
4.Saddle and cross-slide
5.Bedway
6.Tailstock
7.Stand,stail-end
8.Lead screw
9. Apron
10.Stand-middle
11.Footbrake
12.Stand,head-end
13.Gear box
14.End cover(gear train)
15.Headstock

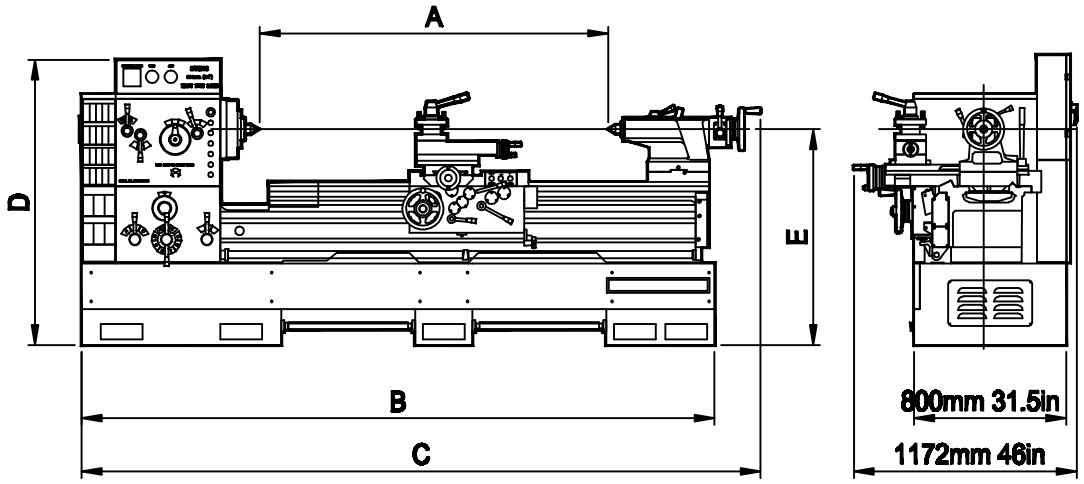
SPECIFICATION AND ACCESSORIES

BRIEF SPECIFICATION

MODEL		2480	24120	24160	3080	30120	30160
NOMINAL SIZE							
Swing over bed Swing over cross slide Height of center		610mm 24in 350mm 13-3/4in 305mm 12in			760mm 30in 500mm 19-3/4in 380mm 15in		
Distance between centers		2033 80"	3050 120"	4050 160"	2033 80"	3050 120"	4050 160"
BED							
Width of bedways		485mm 19in					
Total length of bed		3320 130"	4380 172"	5470 215"	3320 130"	4380 172"	5470 215"
Gap type	Swing over gap	820mm 32-1/4in			970mm 38-1/4in		
	Length of gap	515mm 20-1/4in					
	Width in front of face plate	340mm 13-3/8in					
SPINDLE							
Spindle nose mounting		D1-11 CAMLOCK					
Spindle bore		105mm. 4-1/8"					
Taper of spindle bore		M.T.#5 (with center sleeve)					
Number of spindle speeds		18 steps (Forwer & Reverse by magnetic clutch control)					
Range of spindle speeds		10-1200 R.P.M. (With Magnetic brake)					
TOOL SLIDE							
Total travel of cross slide		375mm 14-3/4in					
Total travel of top slide		225mm 9in					
Max. size cutting tool		28mm 1-1/8in					
TAIL STOCK							
Total travel of barrel		195mm 6-5/8in					
Taper in barrel		M.T.#5					
Diameter of barrel		80mm 3-1/8in					
THREADS							
Lead screw diameter & pitch		Dia. 38mm. Pitch 12mm. 2 T.P.I.					
Number of Inch threads		60					
Range of Inch threads		1/4-84 TPI					
Number of Metric pitches		60					
Range of Metric pitches		0.2-112 mm					
Number of Diametral pitches		55					
Range of Diametral pitches		1-240 D.P.					
Number of Module pitches		55					
Range of Module pitches		0.05-28 M.P.					
FEEDS							
Feed rod diameter		38mm 1-1/2in					
Number of feed change		40					
Range of longitudinal feeds		0.040-5.000 in/rev 0.0015-0.2 in/rev					
Range of cross feeds		0.015-4.000 in/rev 0.0006-0.16 in/rev					
MOTOR							
Main spindle motor		15 HP. 11kw					
Coolant pump motor		1/8HP 0.1kw					
Machine net weight		3500kgs.	4000kgs.	4500kgs.	3800kgs.	4300kgs.	4800kgs.
We reserve the right to modify and improve our products.							

SPECIFICATION AND ACCESSORIES

MEASUREMENT



MODEL	A	B	C	D	E
2480	1840mm 73in	3330mm 131in	3570mm 140in	1500mm 59in	1135mm 45in
24120	3050mm 120in	4550mm 179in	4790mm 188in	1500mm 59in	1135mm 45in
24160	4050mm 160in	5560mm 219in	5790mm 228in	1500mm 59in	1135mm 45in
3080	1840mm 73in	3330mm 131in	3570mm 140in	1575mm 62in	1210mm 48in
30120	3050mm 120in	4550mm 179in	4790mm 188in	1575mm 62in	1210mm 48in
30160	4050mm 160in	5560mm 219in	5790mm 228in	1575mm 62in	1210mm 48in

SPECIFICATION AND ACCESSORIES

STANDARD ACCESSORIES:

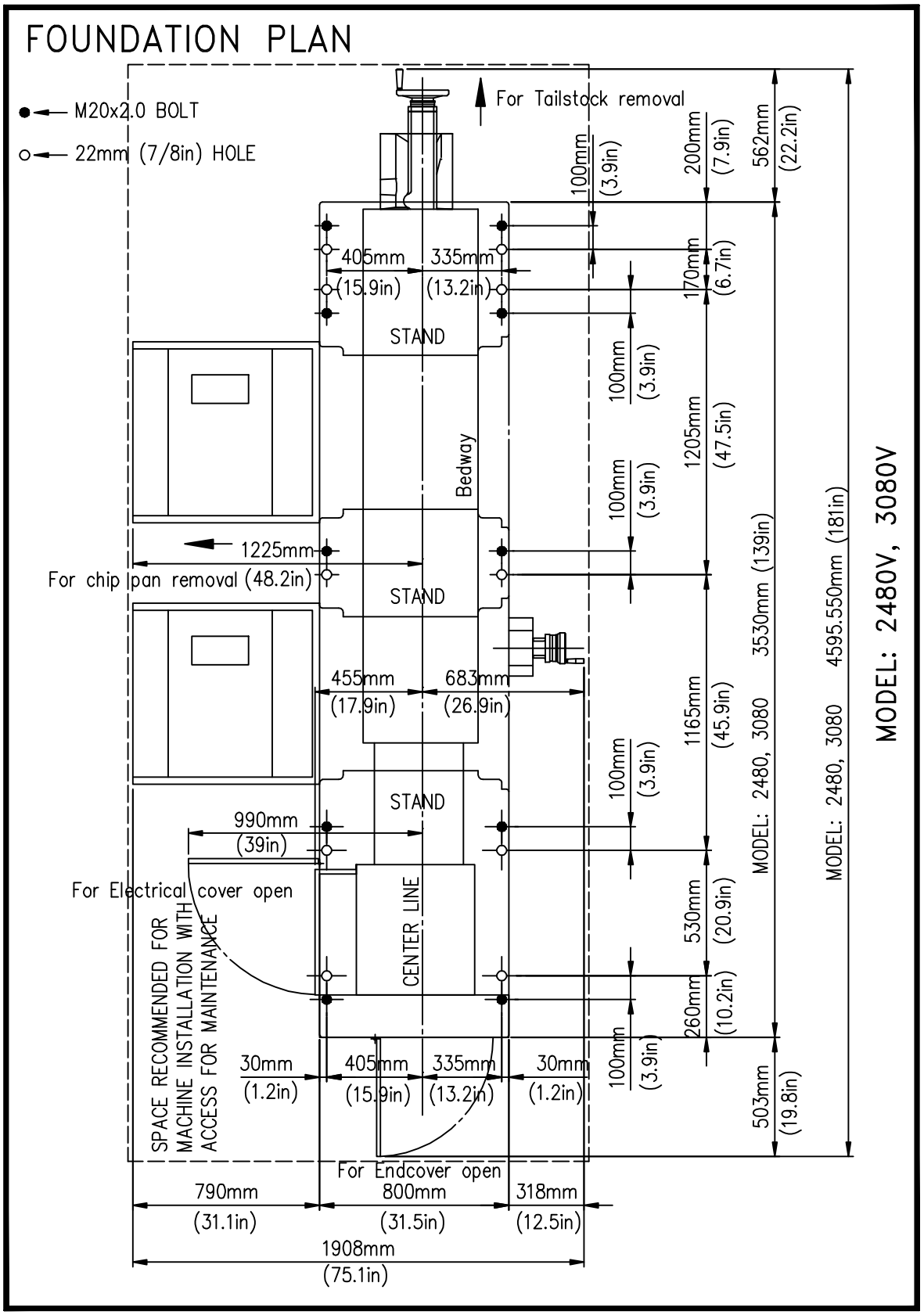
- Face plate
- Steady rest
- Coolant pump
- 4–way rapid carriage traverse
- Carriage splash guard
- Longitudinal carriage stops
- Chip pans
- Tool kit

OPTIONAL ACCESSORIES:

- 3–jaw chuck
- 4–jaw chuck 18”
- Follow rest
- Work light
- American toolpost
- Digital readout
- Tracer attachment

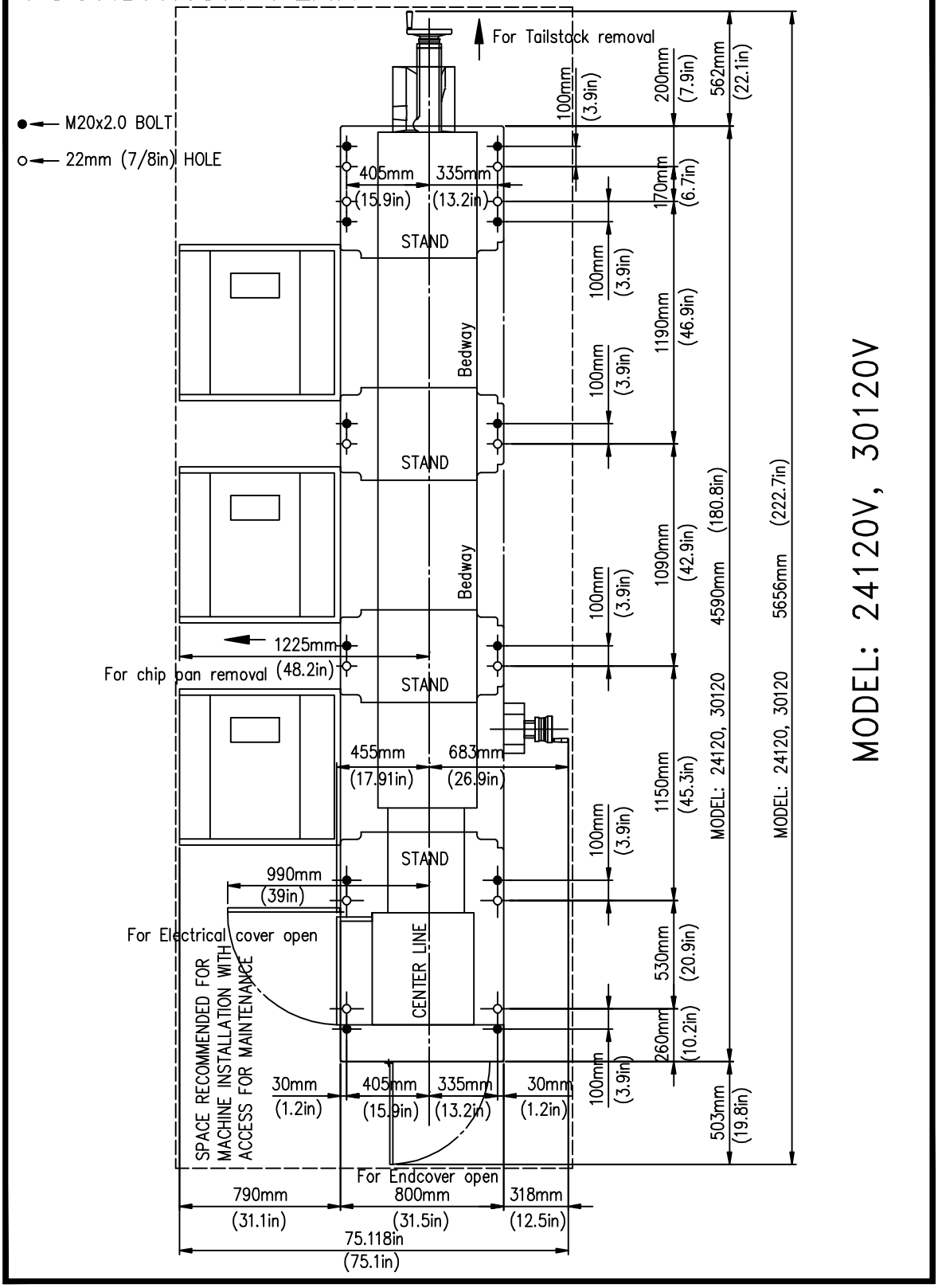
SPECIFICATION AND ACCESSORIES

FOUNDATION PLAN



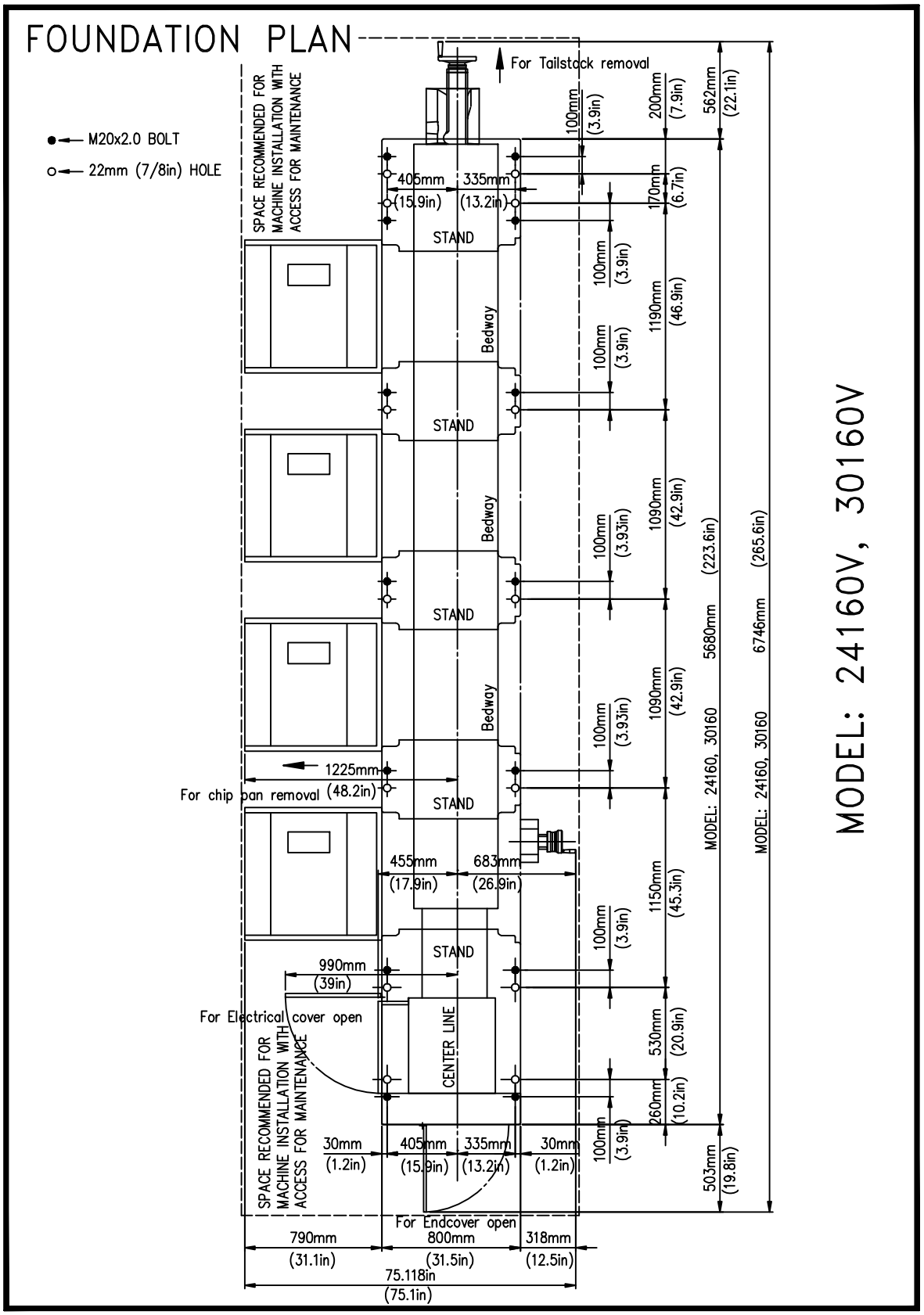
SPECIFICATION AND ACCESSORIES

FOUNDATION PLAN



SPECIFICATION AND ACCESSORIES

FOUNDATION PLAN



INSTALLATION

CLEANING

Before operation any controls, remove the anticorrosion coating from all slideways, and the endgear train, using white spirit or Kerosene.

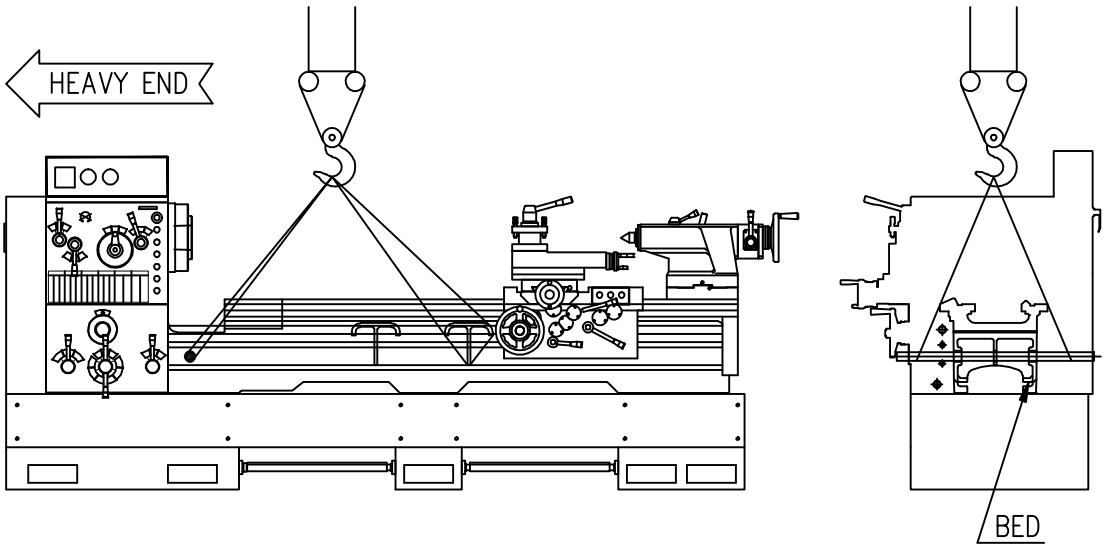
DO NOT USE CELLULOSE SOLVENTS FOR CLEANING AS THEY WILL DAMAGE THE PAINT FINISH.

Oil all bright machined surfaces immediately after cleaning using machine oil or slideway lubricant, use heavy oil or grease on the endgear.

LIFTING

Move and lift the machine by using a 40mm(1−1/2") Diameter and 890mm(35")Long iron bar. Go through the hole of Bed and lift unpacking machine with a wire rope, whith have enough capacity against gross weight of this machine.
Raising and lowering the machine should be careful. Do not touch the leadscrew,feedroad spindle or other handwheel.
Be careful not to bump the nachineryagainst the floor.
In oder to have the machinery propely balanced before hoisting, it is advisableto move Tailstock and Carriage to the extreme right−hand position; clamp bothassembiles firmly in place so they will not accidentally slid to left when lifting.

IMPORTANT: DO NOT USE SLINGS AROUND OUTSIDE OF BED AS LEADSCREW AND FEEDSHAFT MAY BE BENT.



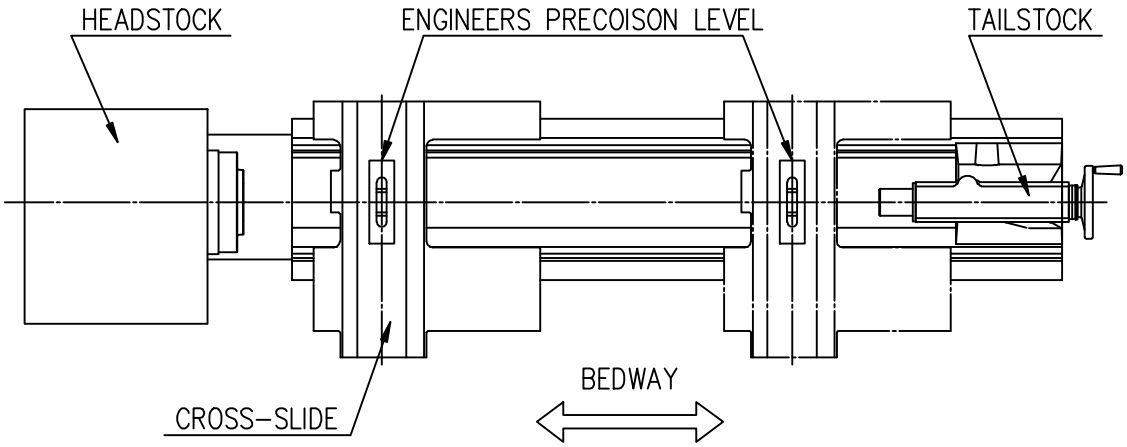
INSTALLATION

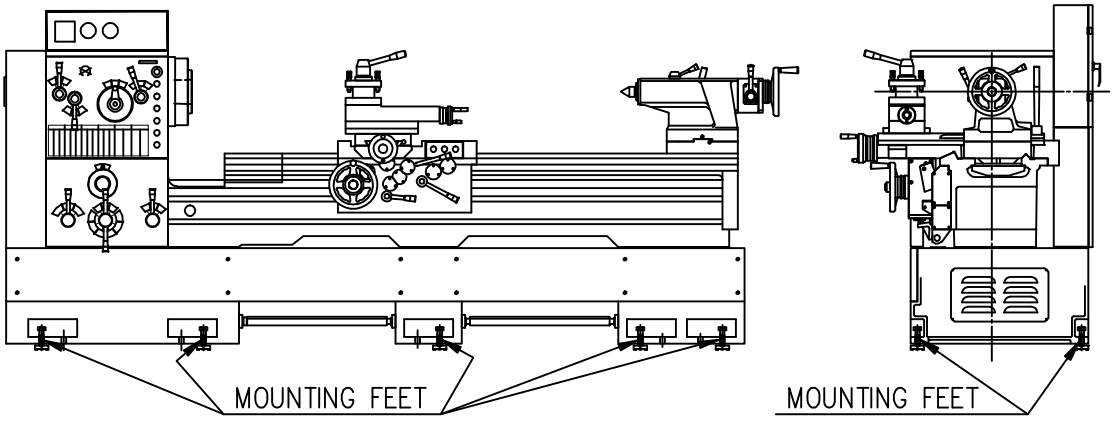
INSTALLING

Located the machine on a solid foundation, allowing sufficient area all round for easy working and maintenance (see Foundation plan). The lathe may be used free-standing or bolted to the foundation.

Free-standing: Position lathe on foundation and adjust each of the ten mounting feet to take equal share of the load. Then using an engineers precision lever on the bedways adjust the feet to level up machine. Periodically check bed level to ensure continued lathe accuracy.

Fixed installation: Position lathe over six bolts (20 mm. diam.) set into the foundation to correspond with holes in the mounting feet. Accurately level the machine, then tighten hold-down blots. Re-check bed level.



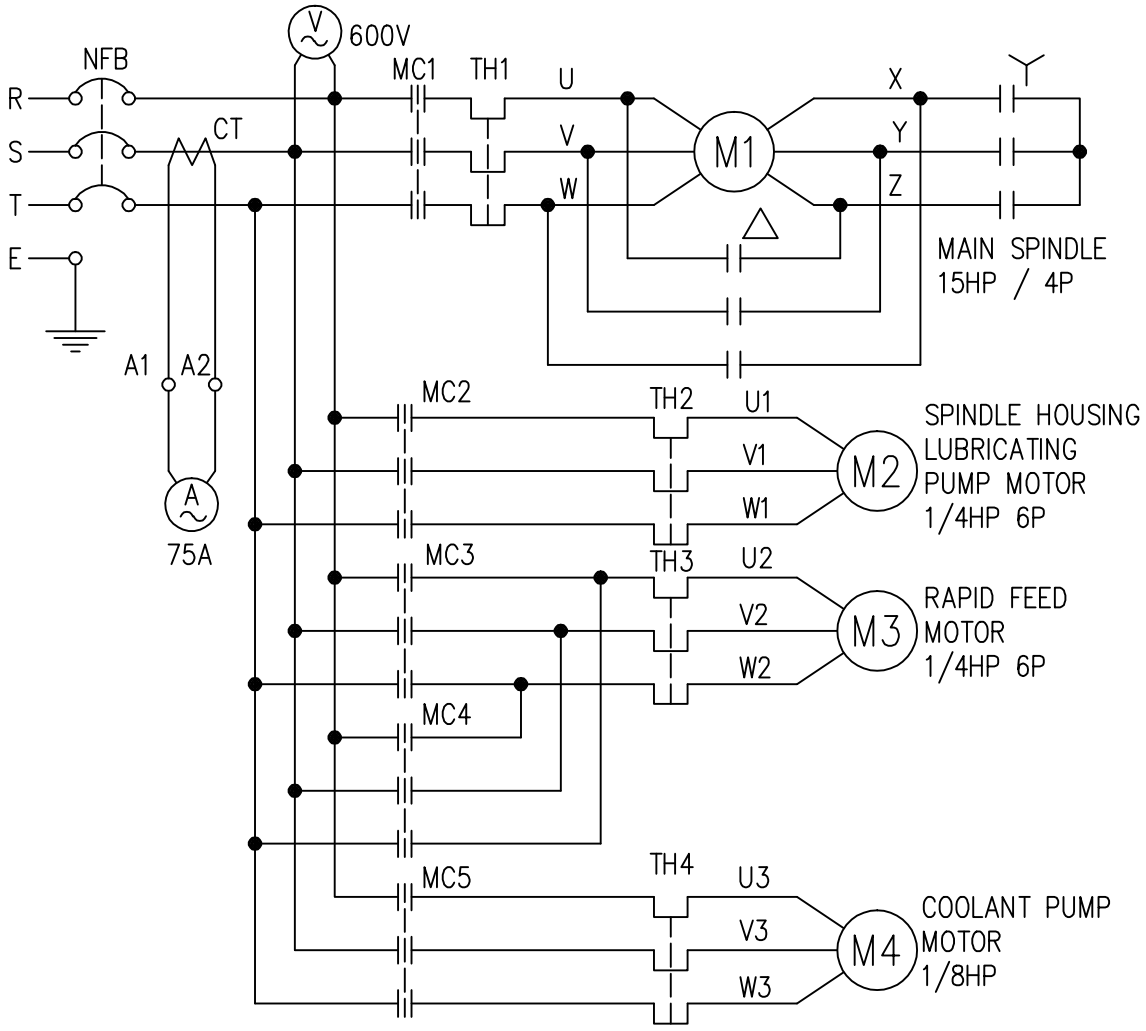


INSTALLATION

POWER SOURCE WIRING (PART 1)

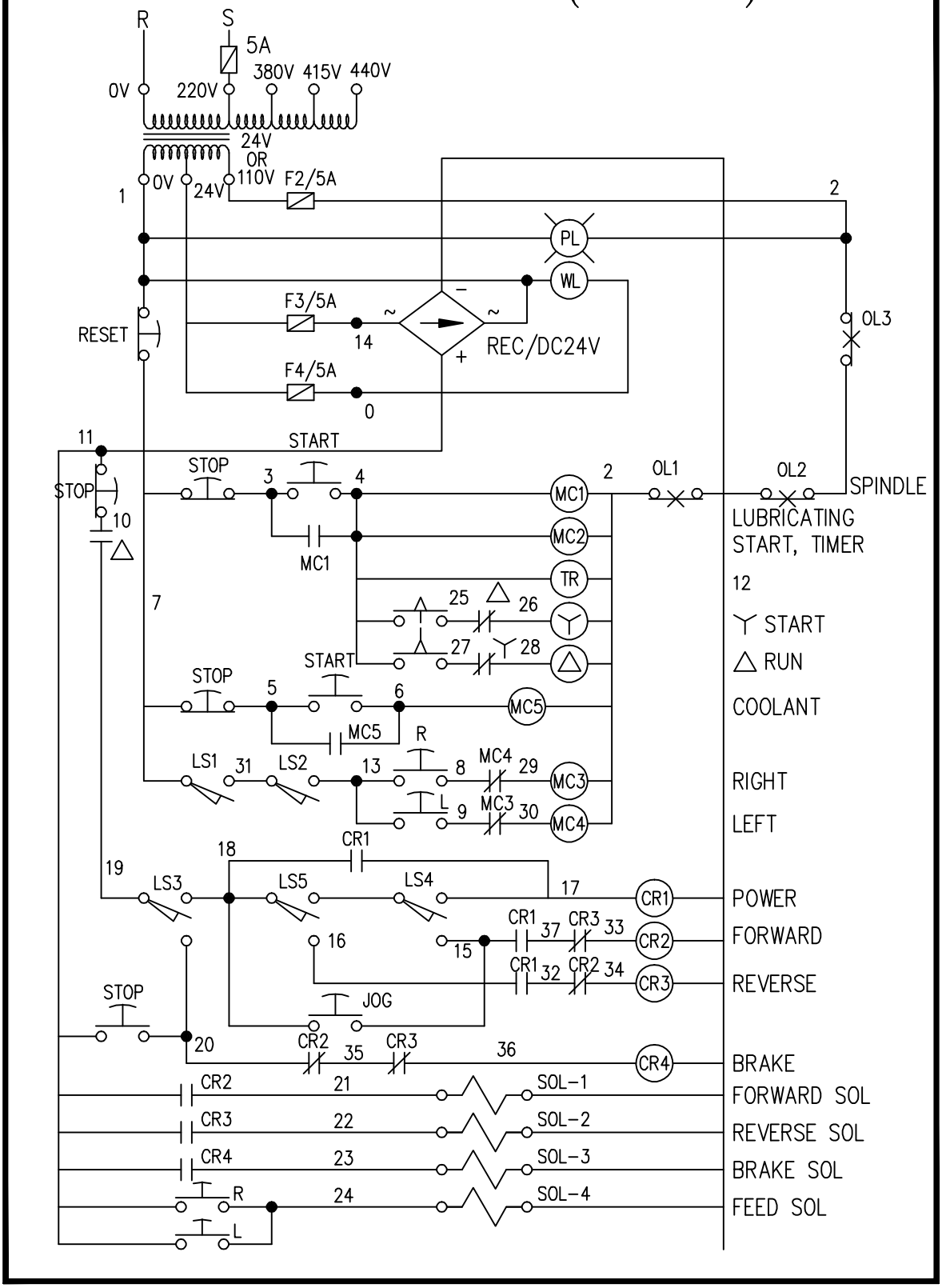
Be sure to protect carefully the electrica wires exposed outside of the machine, which will be liable to be damaged by chips.
This will induce a layer-short accident and will lower an efficiency to a considerable extent. The respective wirings should be connected with terminals R,S,T, at the control housing. Which located at the rear side of the front leg. NOTE: This machine is equipped with 8 or 11 kw (10 or 15 HP) main motor. if an electric wire is used a cap-tired code, use size over AWG #12.

After wiring, check the spindle rotating direction. Turn on the power source switch (on the front of electrical box), and main motor push buttom (on the front of headstock), then turn the start rod (staring lever on the right side of apron) upward, if it forward revolution, it is the correctwiring. if not, replace two of the three wires (R,S,T,) Then check therotation agin.
If the spindle speed drops to zero during normal operation, but the pilot light is still on, it indicators that the overload thermal relay is working. Please turn off the main switch, reset the thermal overload realy and restart the machine.



INSTALLATION

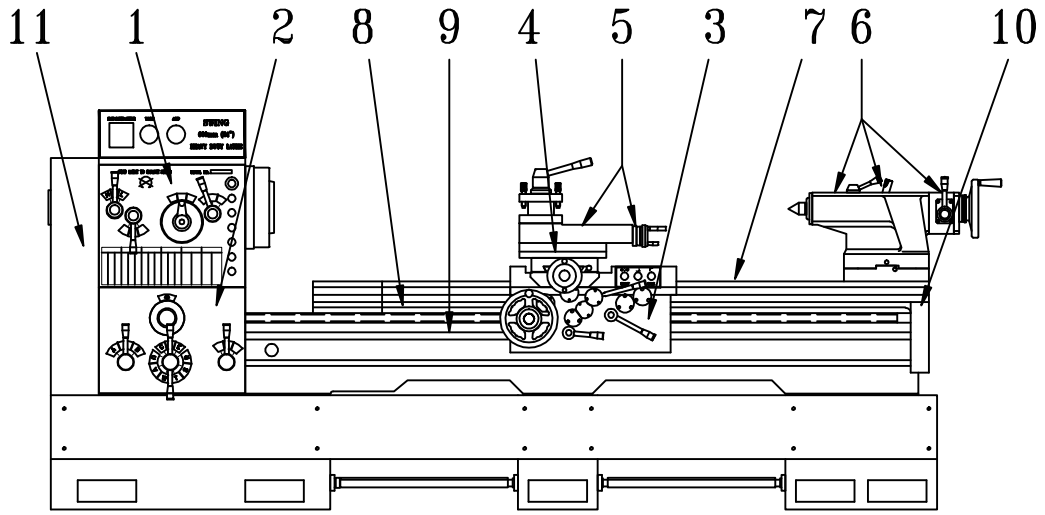
POWER SOURCE WIRING (PART 2)



INSTALLATION

LUBRICATION

It is most important to lubricated lathe before operating!
The operator should be responsible for the proper lubricationof the lathe. The grade and quality of lubricats are given on the following OIL LUBRICATION CHART. The instructions on this chart are essential to the proper oiling of the internal of the lathe. Oil levels should be strictly observed, for it is of primary importance for proper operation and long life that the oil bath for the headstock feed gearbox and apron which alwaysbe completely filled. To keep the machine ppropely lubricated, follow the instructions given on the below chart.

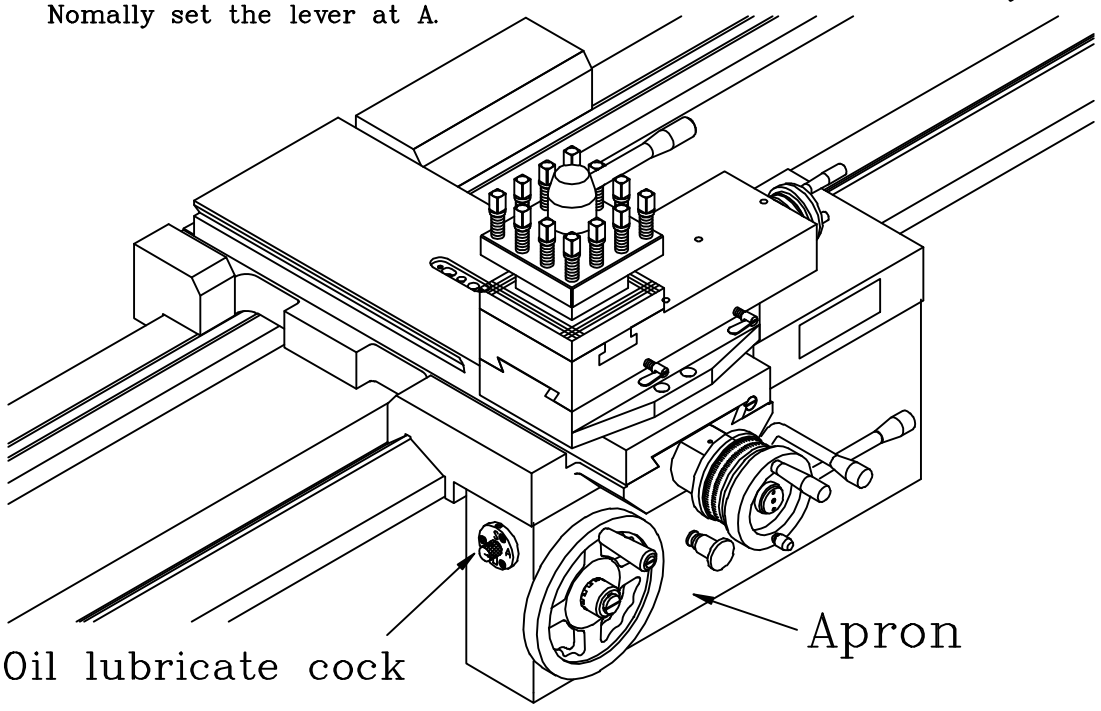


No.	LUBRICATION POINT	VISCOSITY S.U.S. 100F	OIL RECOMMENDED	OIL EXCHANGE / OR REPLENISHMENT
1	Headstock	160	SHELL(TELLUS)25	Three time a year
2	Feed gearbox	320	SHELL(TONNA)33	Three time a year
3	Apron	320	SHELL(TONNA)33	Keep the oil up to the oil window
4	Cross slide screw	320	SHELL(TONNA)33	Once a day
5	Compound slide	320	SHELL(TONNA)33	Once a day
6	Tailstock	320	SHELL(TONNA)33	Once a day
7	Bedways	320	SHELL(TONNA)33	Once a day
8	Leadscrew	320	SHELL(TONNA)33	Once a day
9	Feed rod	320	SHELL(TONNA)33	Once a day
10	Bracket	320	SHELL(TONNA)33	Once a day
11	Change gears	320	SHELL(TONNA)33	Once a day

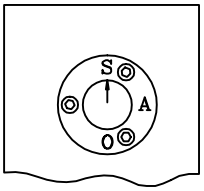
INSTALLATION

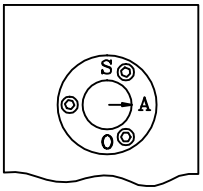
LUBRICATION

There is a oil lubricate cock on the apron side.
When set the arrow direction at A, it will lubricat Apron, and set the arrow direction at S, it will lubricat Saddle cross slide and bedway.
Nomally set the lever at A.



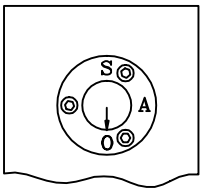
Oil lubricat to Saddle

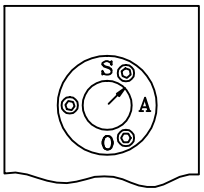




Oil lubricat to Apron

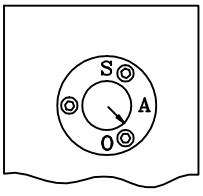
Turn off oil lubricat

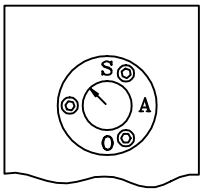




Oil lubricat 1/2 to Apron and 1/2 to Saddle

Oil lubricat 1/2 to Apron and 1/2 return to oil reservoir





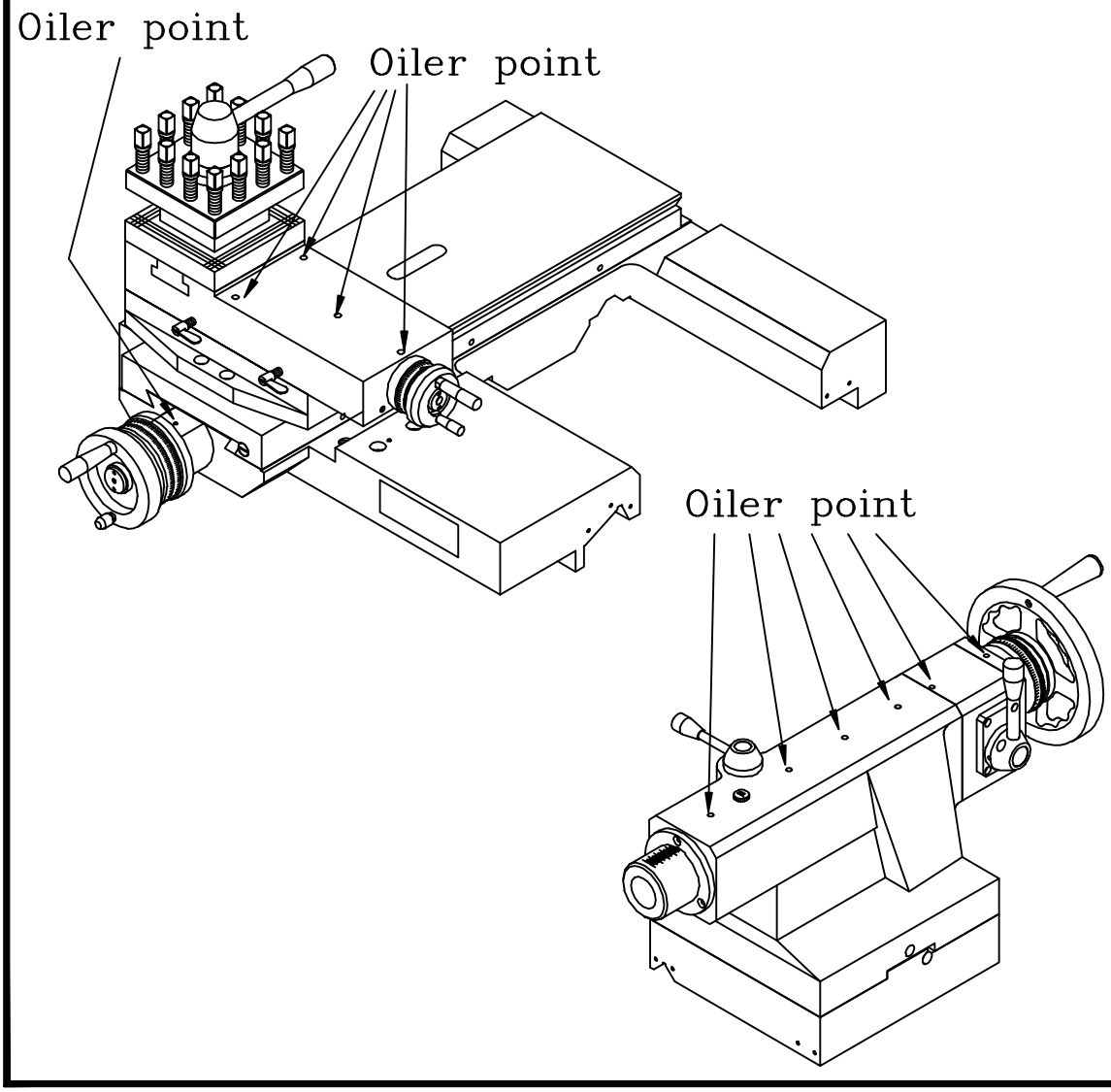
Oil lubricat 1/2 to Saddle and 1/2 return to oil reservoir

LUBRICATION (Part 3)

In addition to pump–fed lubrication, oiler points are provided for for the saddle, cross–slide, cross–slide nut and using a standard pump–type can with light machine oil or way lubricant.

On the tailstock, tail end of leadscrew oiler points are provide for daily attention from a standard oil can.

It is recommended that all slideways, the leadscrew and feed shaft are cleaned off (a bristle paint brush is useful for this) and lighly oiled after each period of work.



INSTALLATION

CHUCKS AND CHUCK MOUNTING

When mounting chucks or faceplate, first, ensure that spindle and chuck tapers are scrupulously clean and that all cams lock in the correct positions, see Fig. It may be necessary when mounting a new chuck to re–set the camlock studs (A) To do this, remove the cap–head locking screws (B) and set each stud so that the scribed ring (C) is flush with the rear face of the chuck–with the slot lining up with the locking screw hole (see Fig).

Now mount the chuck or faceplate on the spindle nose and tighten the three cams in turn. When fully tightened, the cam lock line on each cam should be between the two V makes on the spindle nose.

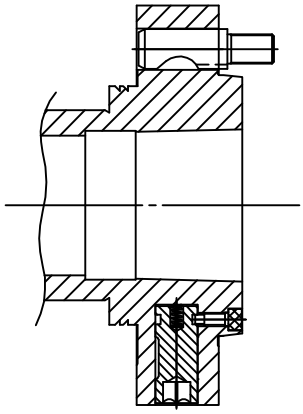
If any of the cams do not tighten fully within these limit marks, remove the chuck or faceplate and re–adjust the stud as indicated in the illustration. Fit and tighten the locking screw (B) at each stud before remounting the chuck for work.

This will assist subsequent remounting.

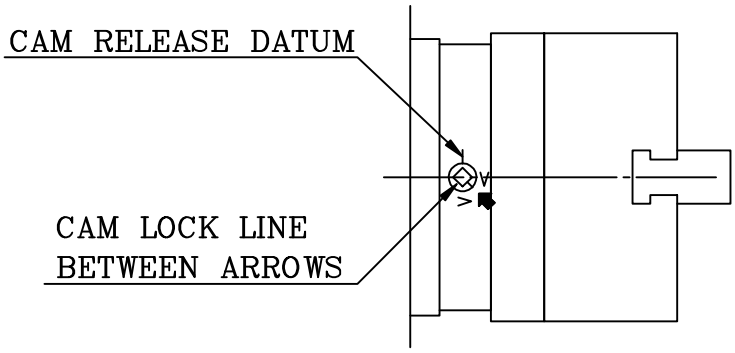
DO NOT INTERCHANGE CHUCKS OR FACEPLATES BETWEEN LATHES WITHOUT CHECKING FOR CORRECT CAM LOCKING BEFOREHAND.

IMPORTANT: Take careful note of speed limitation when using faceplate; 10 inch faceplates should not be run at speeds greater than 1000 rev/min. and 12" faceplate at not more than 770 rev/min.

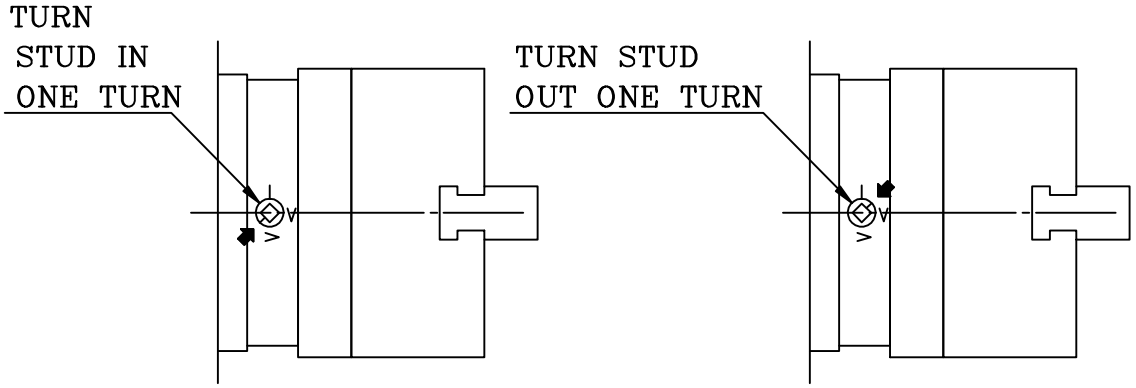
INSTALLATION



CORRECT



WRONG



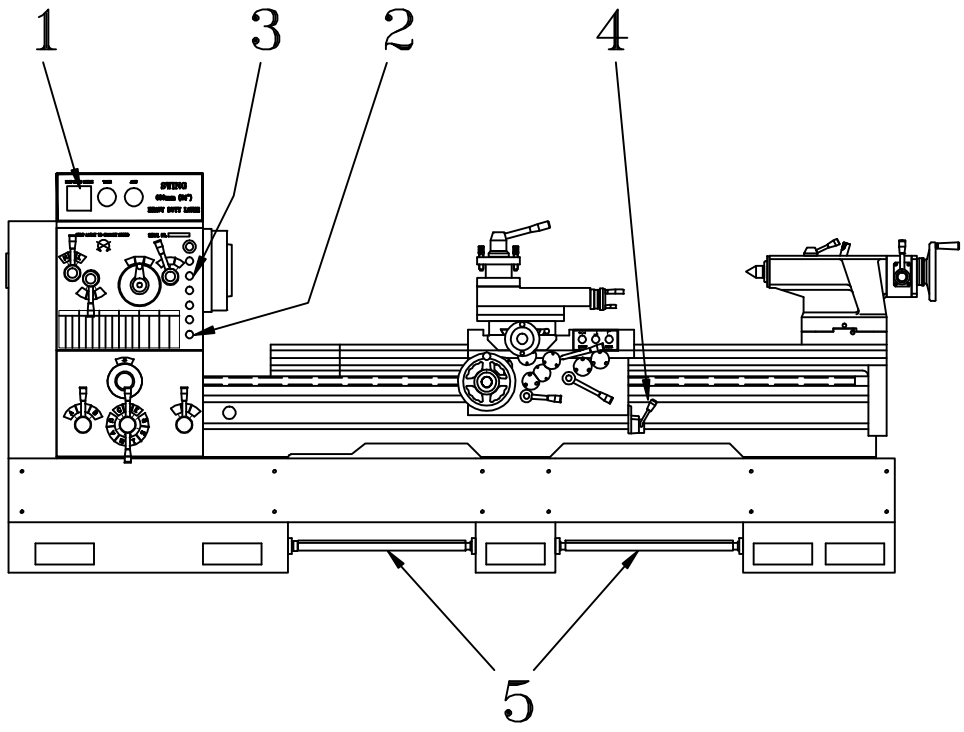
OPERATION

STARTING AND STOPING

Before starting up machine, make sure if the proper lubrication to all running parts has been done as per lubrication chart, and switch on after ensuring the starting levers at feed gear box and apron which should be placed in the neutral position.

First, switch on the Auto. Braker (1) the pilot lamp (2) will be lighted. then push on the main motor control buttom (3). The starting–up of main spindle is accomplished by the starting lever (4) at the right side of apron. a safety locking device which prevents any abrupt accident from operators. Move this lever horizontally to disengage a safety pin, and move it up or down to get the reverse or forward spindle revolution. When this lever come back to the neutral position, or the foot brake pedals (5) is pressed down, the main spindle will be stopped.

NOTE: The FORWARD–REVERSE revolution is controlled by a Electrol–Magnetic clutch which be fitted inside of headstock. And this clutch cooperates with a Electrol–MagneticBrake which be fitted left side of headstock to stop the spindle revolving while the main motor is still running. This feature can save the power for motor starting and prolong the life of motor.



OPERATION

SELECTION OF SPINDLE SPEEDS

Select the appropriate spindle speed for working.

There are eighteen steps in the range of spindles (10 – 1200r.p.m) as show on speed chart, divided into three groups.

The change of main spindle speeds are accomplished by the dial level (1) and the lever (2).

Lever (1) selects eighteen grades speeds correspond with lever (2), lever (2) selets HIGH – MIDDLE – LOW position.

Red color position is the HIGH speeds range, 1200 – 215 r.p.m.

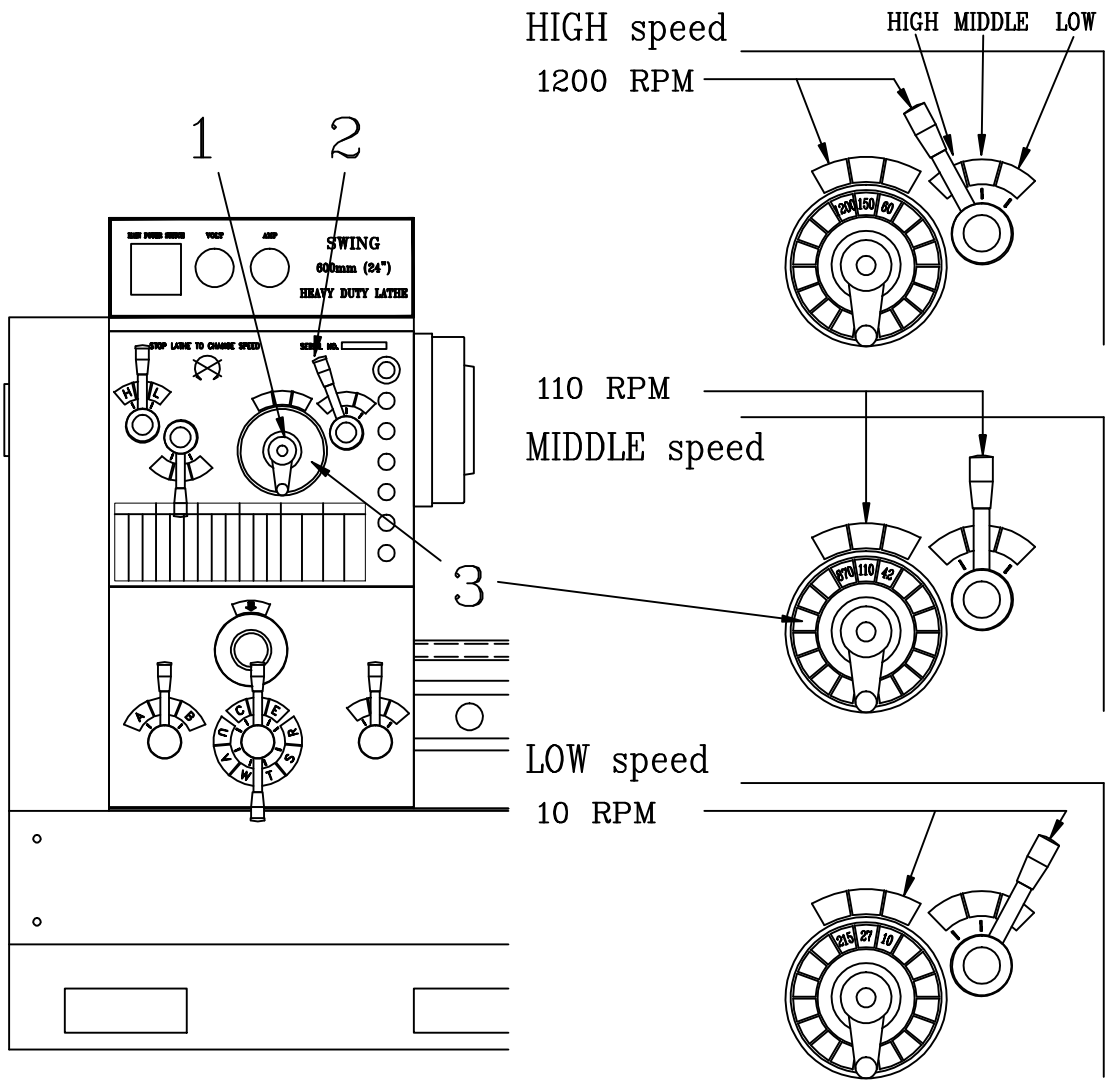
Green color position is the MIDDLE speeds range, 150 – 27 r.p.m.

Blue color position is the LOW speeds range, 60 – 10 r.p.m.

Spindle speeds dial (3) shows 18 steps, being divided into 10, 15, 20, 27, 30, 39, 42, 55, 60, 75, 110, 150, 215, 310, 430, 610, 870 and 1200.

In order to obtain the desired spindle speeds.

place the lever atthe proper position. Be sure do not shift the levers when the spindle is running.



OPERATION

THREADS AND FEEDS

All the threads and feeds directiry available from the gearbox are show on the data plate fitted on the front of the headstock, with the setting of control levers.

Threads and feeds direction can be changed by knob (1) on the headstock, which select Forward or Reverse revolotion for Leadscrew and Feed shaft.

Anothor way, Pull and push the knob (8) on the front of the Apron, which can change the Threads and Feeds direction from the Apron.

The lever (2) on the headstock, which select Fine threads and feeds (for position L); Coarse threads and feeds (for position H)

CAUTION

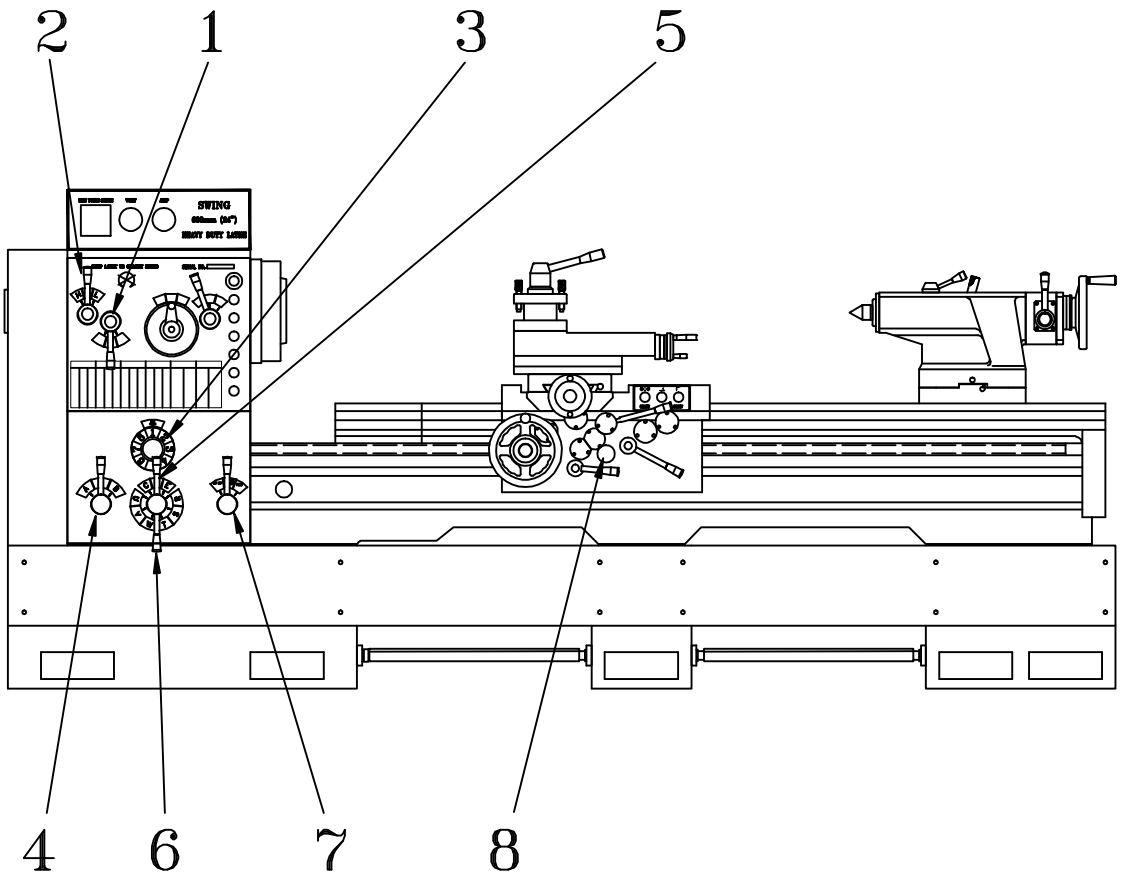
NOTE: Do not useing Coarse threads and feeds (the lever "2" set on position "H") while the spindle speed over 110 r.p.m.

The dial (3) and knob and lever (4), (5), (6) on the gearbox which select all kinds thread and feed as the data plate.

For Feed cutting, the lever (7) should be set on (FEED) position.

For Inch and Metric threading, the lever (7) should be set on (MM, TPI)

For DP and MP threading, the lever (7) should be set on (MP, DP) position.



THREADS AND FEED DATA PLATE

Inch system Leadscrew pitch 2 T.P.I.

Metric system Leadscrew pitch 12 mm.

MM						TPI											
												mm		ins	mm		ins
.2	LBES1	1.5	LBDR6	13	LADR7	84	LBCU8	16	LBDV1	3	LADV6	.04	LBES8	.0015	.35	LBEV8	.014
.225	LBES2	1.6	LAES1	14	LADR8	72	LBCU6	15	LBEU3	2 7/8	LADV5	.045	LBES7	.0018	.4	LAES6	.016
.25	LBES3	1.75	LBDR8	16	LACR1	60	LBCU3	14	LBEV8	2 3/4	LADV4	.05	LBES6	.002	.45	LBEV4	.018
.3	LBES6	1.8	LAES2	18	LACR2	56	LBCV8	13 1/2	LBEU2	2 1/2	LADV3	.055	LBES4	.0022	.5	LBEV3	.02
.35	LBES8	2	LBCR1	20	LACR3	54	LBCU2	13	LBEV7	2 1/4	LADV2	.06	LBES3	.0024	.55	LBEV2	.022
.4	LBDS1	2.5	LBCR3	22	LACR4	48	LBCV6	12	LBEV6	2	LADV1	.065	LBES2	.0026	.6	LAES1	.024
.45	LBDS2	3	LBCR6	24	LACR6	44	LBCV4	11 1/2	LBEV5	1 3/4	LAEV8	.07	LBCU6	.0028	.65	LBCR2	.026
.5	LBDS3	3.5	LBCR8	26	LACR7	40	LBCV3	11	LBEV4	1 5/8	LAEV7	.075	LBES1	.003	.7	LACV8	.028
.6	LBDS6	4	LAER1	28	LACR8	36	LBCV2	10	LBEV3	1 1/2	LAEV6	.08	LBCU3	.0032	.75	LBCR1	.03
.7	LBDS8	4.5	LAER2	32	HADR1	32	LBCV1	9	LBEV2	1 3/8	LAEV4	.09	LBCV8	.0035	.8	LADU6	.032
.75	LBER6	5	LAER3	36	HADR2	30	LBDU3	8	LBEV1	1 1/4	LAEV3	.1	LBDS6	.004	.9	LACV4	.036
.8	LBCS1	5.5	LAER4	40	HADR3	28	LBDV8	7 1/2	LACU3	1 1/8	LAEV2	.11	LBCV5	.0045	1	LACV3	.04
.9	LBCS2	6	LAER6	44	HADR4	27	LBDU2	7	LACV8	1	LAEV1	.12	LBDS3	.0048	1.5	LAER1	.06
1	LBCS3	6.5	LAER7	48	HADR6	26	LBDV7	6	LACV6	7/8	HADV8	.125	LBCV3	.005	2	LADV3	.08
1.1	LBCS4	7	LAER8	56	HADR8	24	LBDV6	5	LACV3	3/4	HADV6	.15	LBDS1	.006	2.5	LADV1	.1
1.15	LBCS5	8	LADR1	64	HACR1	23	LBDV5	4 1/2	LACV2	5/8	HADV3	.175	LBDV8	.007	3	LADR1	.12
1.2	LBCS6	9	LADR2	72	HACR2	22	LBDV4	4	LACV1	1/2	HADV1	.2	LBCS6	.008	3.5	LAEV5	.14
1.25	LBDR3	10	LADR3	80	HACR3	20	LBDV3	3 3/4	LADU3	3/8	HAEV6	.225	LBDV4	.009	4	LAEV3	.16
1.3	LBCS7	11	LADR4	88	HACR4	19	LBDW1	3 1/2	LADV8	5/16	HAEV3	.25	LBDV3	.01	4.5	HADU6	.18
1.4	LBCS8	12	LADR6	112	HACR8	18	LBDV2	3 1/4	LADV7	1/4	HAEV1	.3	LBCS1	.012	5	LAEV1	.2
M.P.						D.P.											
												mm		ins	mm		ins
.05	LBES1	.9	LADS2	8	HADR1	240	LBCU3	19	HBDW8	4 1/2	LAEV2	.015	LBES8	.0006	.225	LBEV1	.009
.075	LBES6	1	LADS3	9	HADR2	160	LBCV3	18	LACV2	4	LAEV1	.02	LBES4	.0008	.25	LADS8	.01
.1	LBDS1	1.2	LADS6	10	HADR3	120	LBDU3	16	LACV1	3 3/4	HADU3	.025	LBCU6	.001	.3	LADS5	.012
.125	LBDS3	1.25	LAER3	11	HADR4	80	LBDV3	15	LADU3	3 1/2	HADV8	.03	LBCU3	.0012	.35	LADS3	.014
.15	LBDS6	1.5	LAER6	12	HADR6	60	LBEU3	14	LADV8	3	HADV6	.035	LBCV7	.0014	.4	LADU6	.016
.175	LBDS8	1.75	LAER8	13	HADR7	56	LBEV8	13 1/2	LADU2	2 3/4	HADV4	.04	LBCV5	.0016	.45	LACV1	.018
.2	LBCS1	2	LADR1	14	HADR8	44	LBEV4	13	LADV7	2 1/2	HADV3	.045	LBER6	.0018	.5	LACS8	.02
.225	LBCS2	2.25	LADR2	16	HACR1	40	LBEV3	12	LADV6	2 1/4	HADV2	.05	LBDU6	.002	.55	LAER1	.022
.25	LBCS3	2.5	LADR3	18	HACR2	36	LBEV2	11 1/2	LADV5	2	HADV1	.055	LBDU4	.0022	.6	LACS5	.024
.3	LBCS6	2.75	LADR4	20	HACR3	33	LACU4	11	LADV4	1 3/4	HAEV8	.06	LBER2	.0024	.7	LAEU8	.028
.35	LBCS8	3	LADR6	22	HACR4	32	LBEV1	10 1/2	LAEU8	1 1/2	HAEV6	.065	LBDV8	.0026	.75	LADR5	.03
.4	LAES1	3.25	LADR7	23	HACR5	30	LACU3	10	LADV3	1 3/8	HAEV4	.07	LBDV7	.0028	.8	LAEU6	.032
.45	LAES2	3.5	LADR8	24	HACR6	28	LACV8	9	LADV2	1 1/4	HAEV3	.075	LBCS5	.003	.9	LADV1	.036
.5	LAES3	4	LACR1	26	HACR7	27	LACU2	8	LADV1	1 1/8	HAEV2	.08	LBDV5	.0032	1	HADS8	.04
.6	LAES6	4.5	LACR2	28	HACR8	26	LACV7	7 1/2	LAEU3	1	HAEV1	.09	LBDR6	.0036	1.25	HADS4	.05
.625	LBCR3	5	LACR3			24	LACV6	7	LAEV8			.1	LBEU6	.004	1.5	LACR5	.06
.7	LAES8	5.5	LACR4			23	LACV5	6 1/2	LAEV7			.12	LBDR2	.005	2	HACS8	.08
.75	LBCR6	6	LACR6			22	LACV4	6	LAEV6			.15	LAES5	.006	2.5	HADR8	.1
.8	LADS1	6.5	LACR7			21	LADU8	5 1/2	LAEV4			.18	LBCR6	.007	3	HADR5	.12
.875	LBCR8	7	LACR8			20	LACV3	5	LAEV3			.2	LACU6	.008	4	HAEU3	.16

OPERATION

CARRIAGE AND APRON

A solid topslide is fitted as standard to the cross-slide, carried on a rotatable base, the cross-slide is maked 60-0-60degree for accurate indexing. Carriage moves along the bed by hand or by power feed and supports the cross slide, compound rest, toolpost and cutting tools. The cross slide handle (1) and toolpost slide handle (2) move the cross slide and toolpost slide in and out.

Handwheel dials are graduated in inch or metric division to suit the operating screw and nut fitted.

The apron, anchored to front of carriage, contains the power longitudinal and cross feed controls. The engaging and disengaging of longitudinal and cross feeds is accomplished by lever (3) (drop worm system). lever (4) determines the engaging for the power longitudinal and cross feed. pull it out is for cross feed, and push it in is for longitudinal feed, and there is a neutral position for manual or thread cutting.

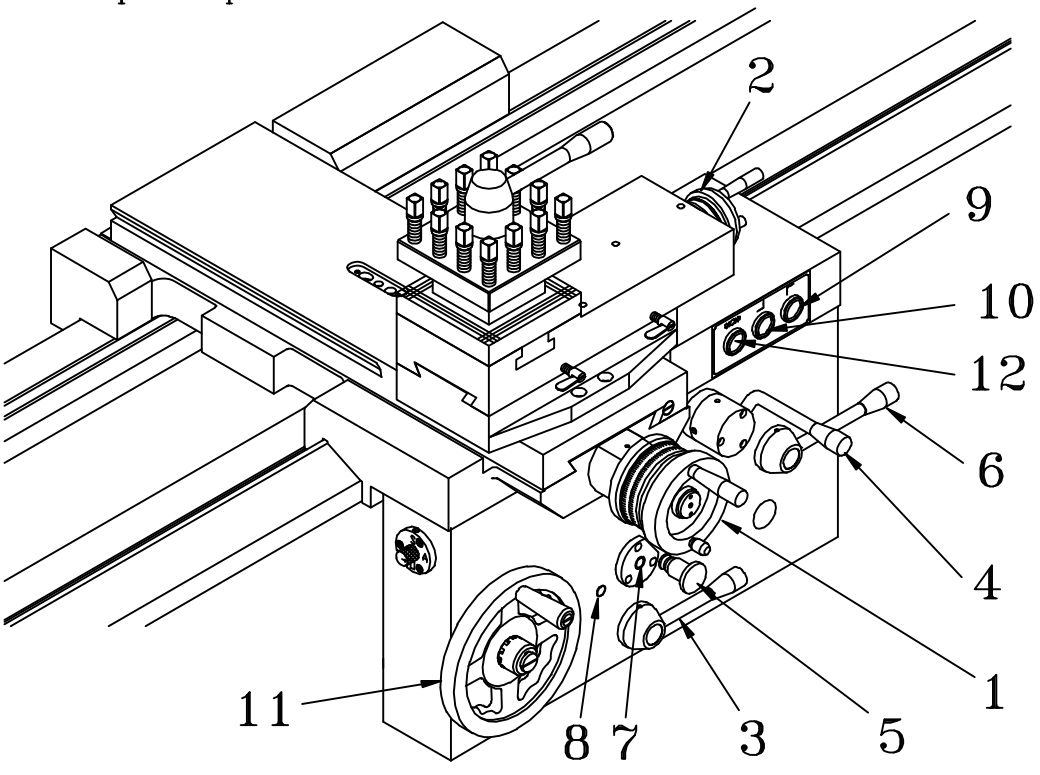
Pull and push the knob (5) on the front of the Apron, which can change the Threads and Feeds direction from the Apron.

The lever (6) is press downward to engage the leadscrew half-nut for thread-cutting.

The interlock device is equipped so that the longitudinal feed and the half-nut engaging can not work together. there are one safety device (auto stop) by means of slipping clutch which can be easily adjusted by screw (7 and 8).

The buttoms (9 and 10) on the front of carriage are for power rapid speed carriage moveing. Before push the power rapid speed buttom push in the apron hand-wheel (11).

The buttom (12) on the front of carriage are for raip electrical brake, can stop the spindle rotation.

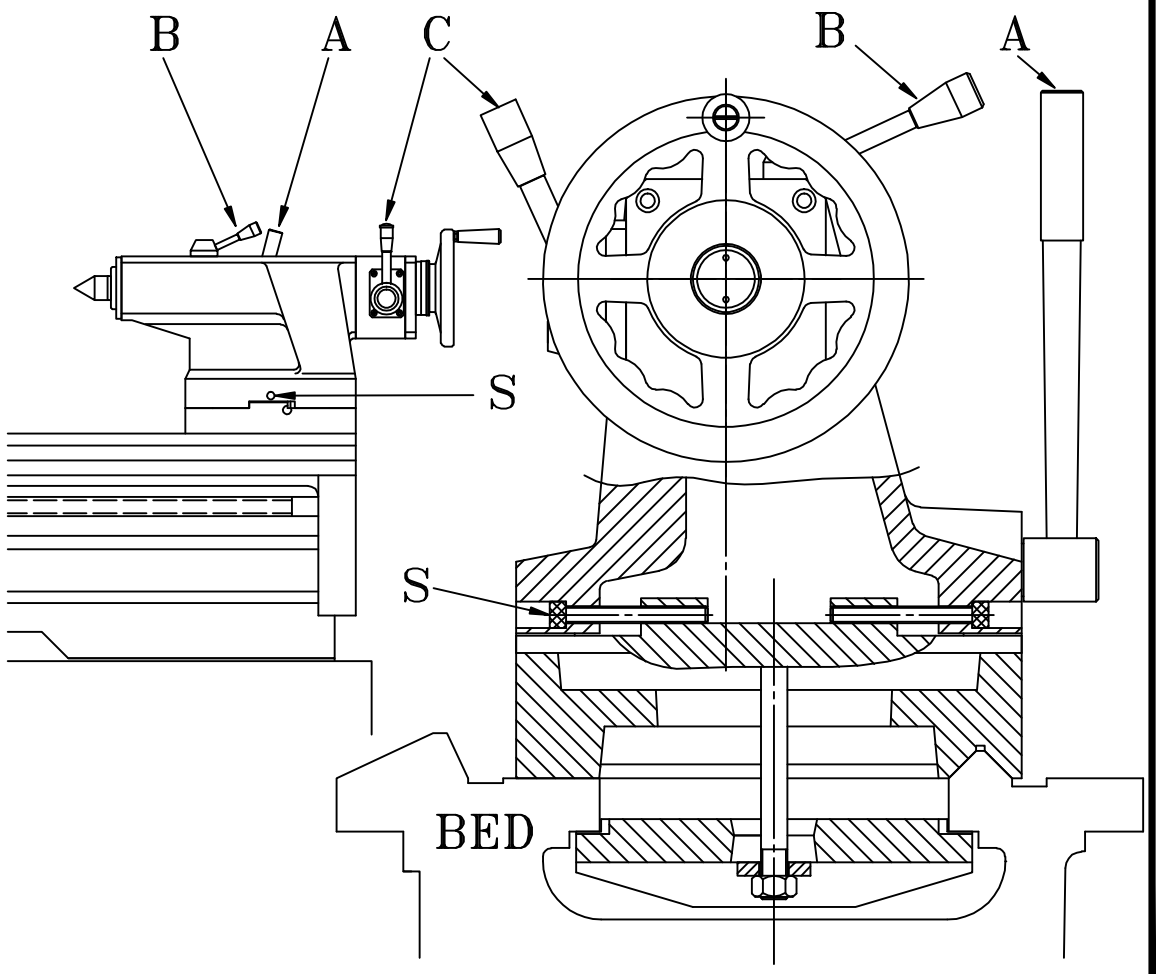


TAIL STOCK

Can be freed for movement along the bed by unlocking the clamp lever (A). The tailstock barrel is locked by lever (B).

The tailstock can be set-over for production of shallow tapers or for re-alignment. Release the clamping lever (A) and adjust screws (S) at each side of the base to move tailstock laterally across the base. Retightening and checking after adjustment of set over.

The tailstock is equipped with Dual spindle feed rate 1:1 and 1:1/4 which select by lever (C) for heavy drilling work by the tailstock.

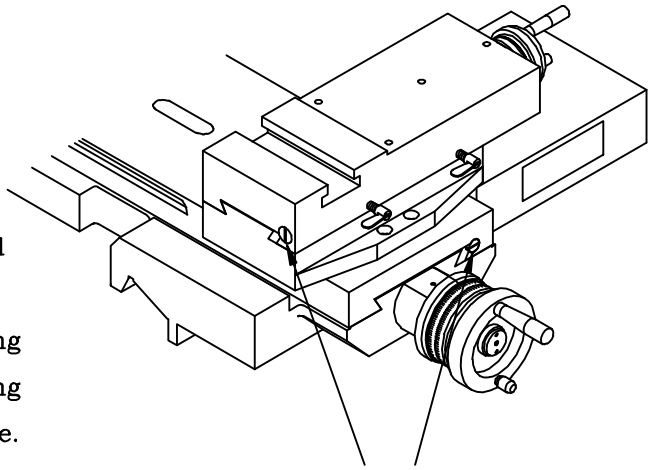


MAINTENANCE

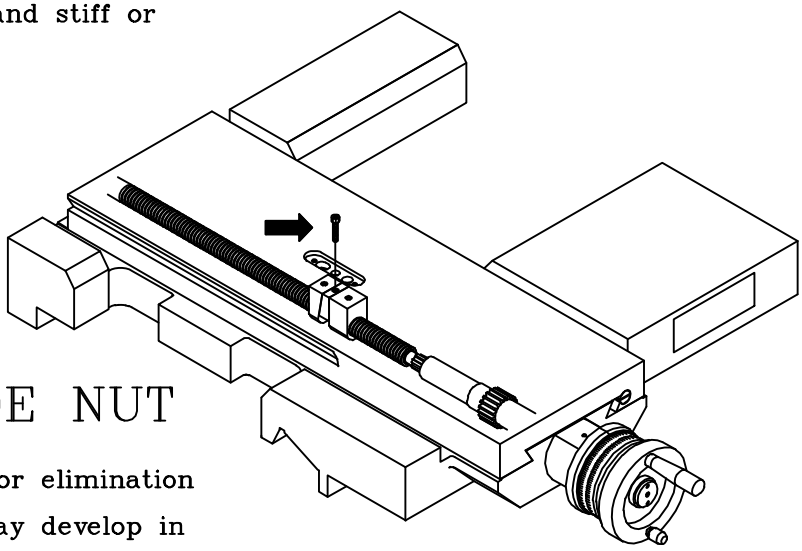
SLIDE WAYS ATTENTION

Tapered gib strips fitted to slideways of saddle cross-slide and top-slide (compound) so that any slackness which may develop can be rectified.

Ensure that slideways are throughly cleaned and lubricated before attempting adjustment. Then reset the gibs by slackening the rear gib screw and tightening the front screw, alittle at a time. Check constantly for smooth action throughout full slide travel; avoid overadjustment which can result in increased wear-rate and stiff or jerky action.



GIB ADJUSTERS



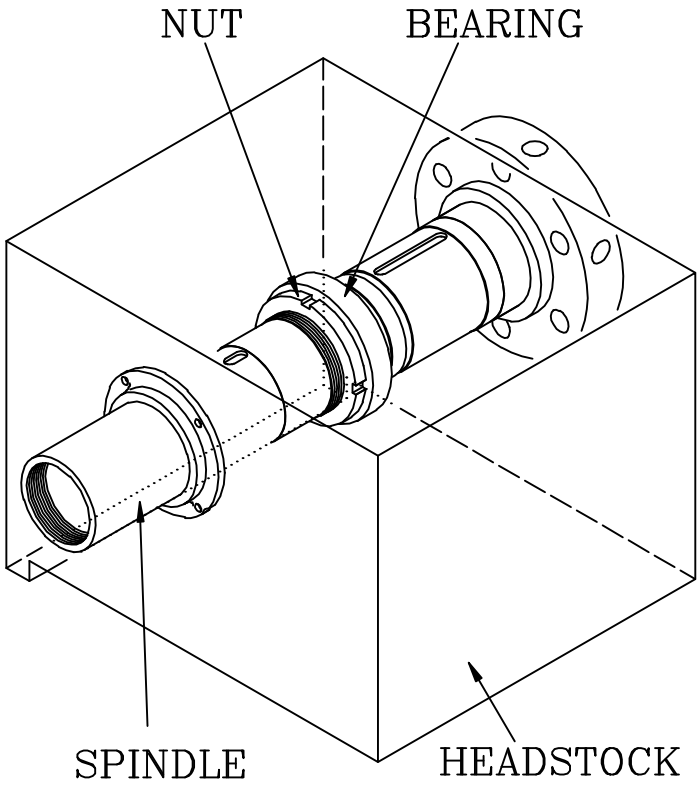
CROSS-SLIDE NUT

This is adjustable for elimination of slackness which may develop in service. Reduce backlash by the cap-hand screw on the top of the cross-cover, then make only small adjustment by the cap-hand screw. Before operating the cross-slide several times by hand to be sure of smooth operation throughout travel.

MAINTENANCE

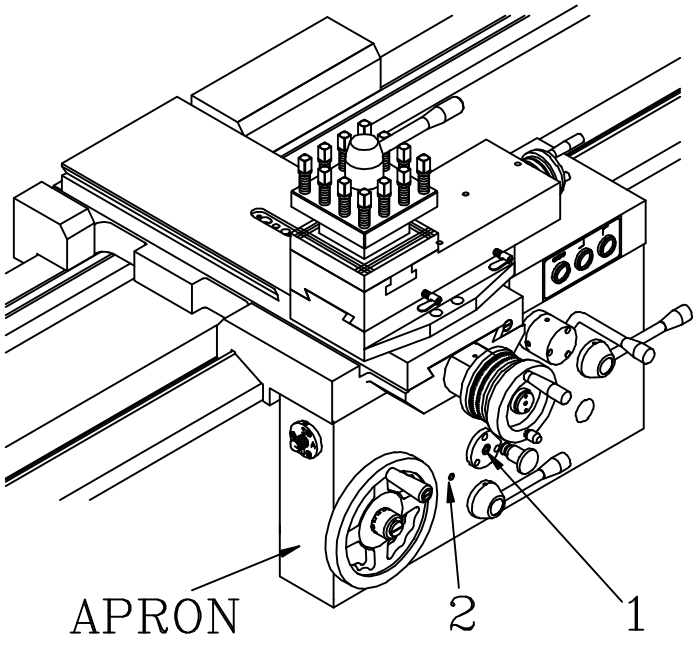
SPINDLE BEARING ADJUSTMENT

If spindle swing too freely or play is noticable when spindle is pushed back and forth or when the bearings are in the case of bearings noise or chattering or over temperature.
Properly practic adjust middle and front bearing or tightening the adjusting nuts in the headstock.



ADJUSTMENT OF OVERLOAD PROTECTION DEVICE

Apron has an overload protection device by means of slipping clutch.
This adjustment can be accomplished by adjusting screw (1) and (2).
Be sure do not adjust this screw so frequently because slipping clutch dose not wear so much even for a long period of use.



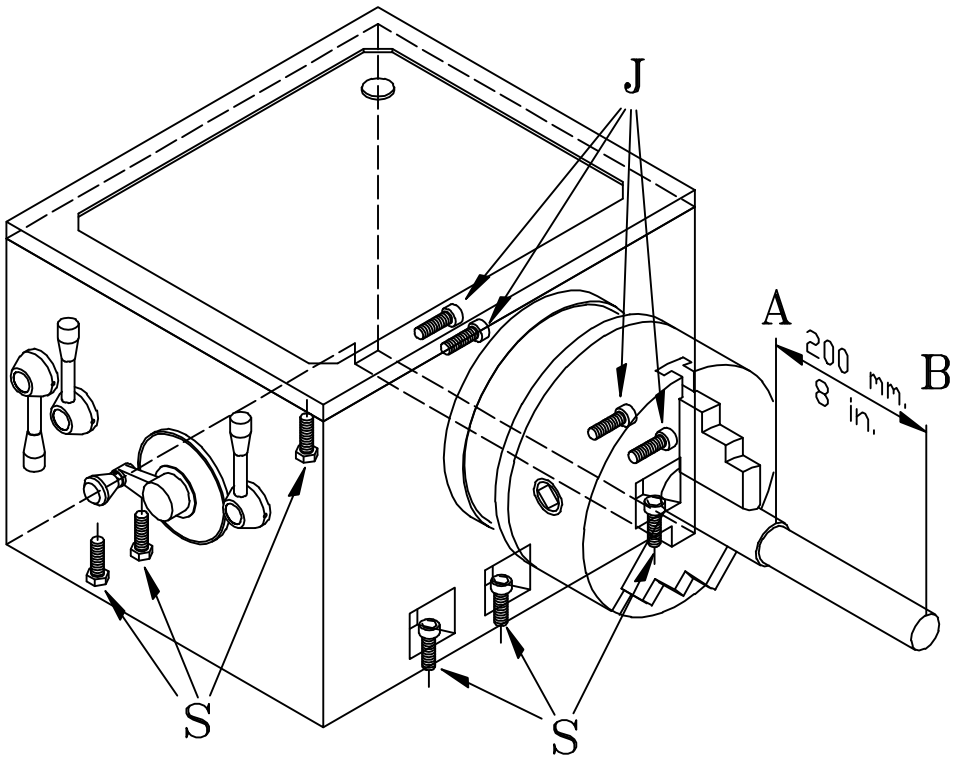
LATHE ALIGNMENT (Part 1)

With the lathe installed and running. We recommed a check on machine alignment before commencing work. Check levelling and machine alignment at regular periods to ensure continued lathe accuracy.

A. Headstock check

Take a light cut with a keen tool over a 8in. (200mm.) length of 2 in. dia. (50mm.) steel bar gripped in the chuck but not supported at the free end. Micrometer readings at each end of the turned length (at A and B) should be the same.

To correct a difference in readings, slacken the six headstock hole-down screws (S) and adjust the screw (J) rear side of the headstock, to adjusting the headstock center. Tighten all screw after adjustment and repeat the test-cut/micrometer-reading, sequence until micrometer readings are indentical, so machine now cutting absolutely parallel.

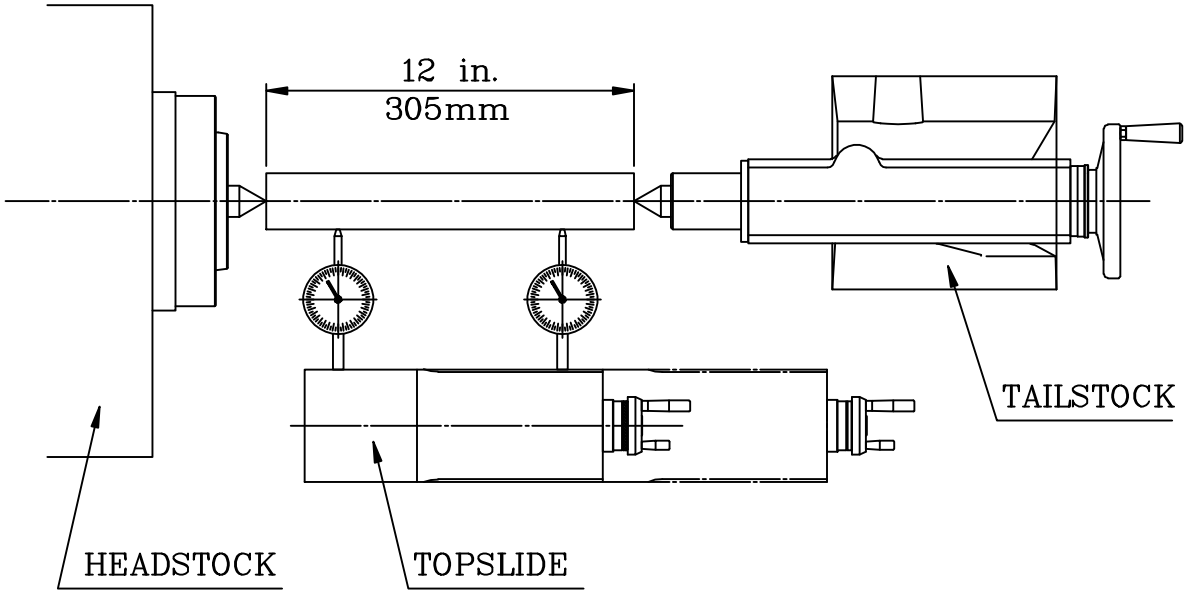


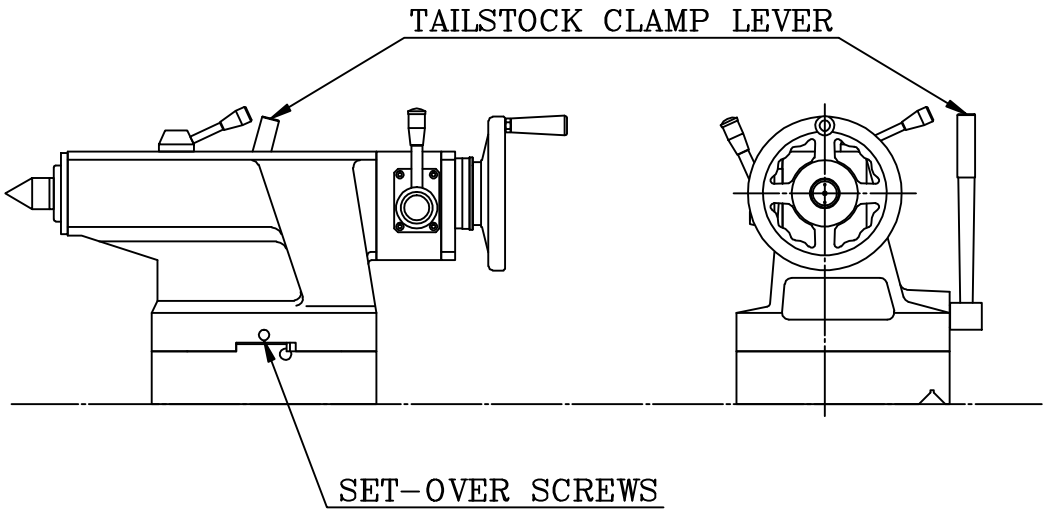
LATHE ALIGNMENT (Part 2)

B. Tailstock check

Using a 12in. (305mm.) ground steel bar fitted between headstock and tailstock centers, check the alignment by fitting a dail-test indicator to the topslide and traversing the center line of the bar.

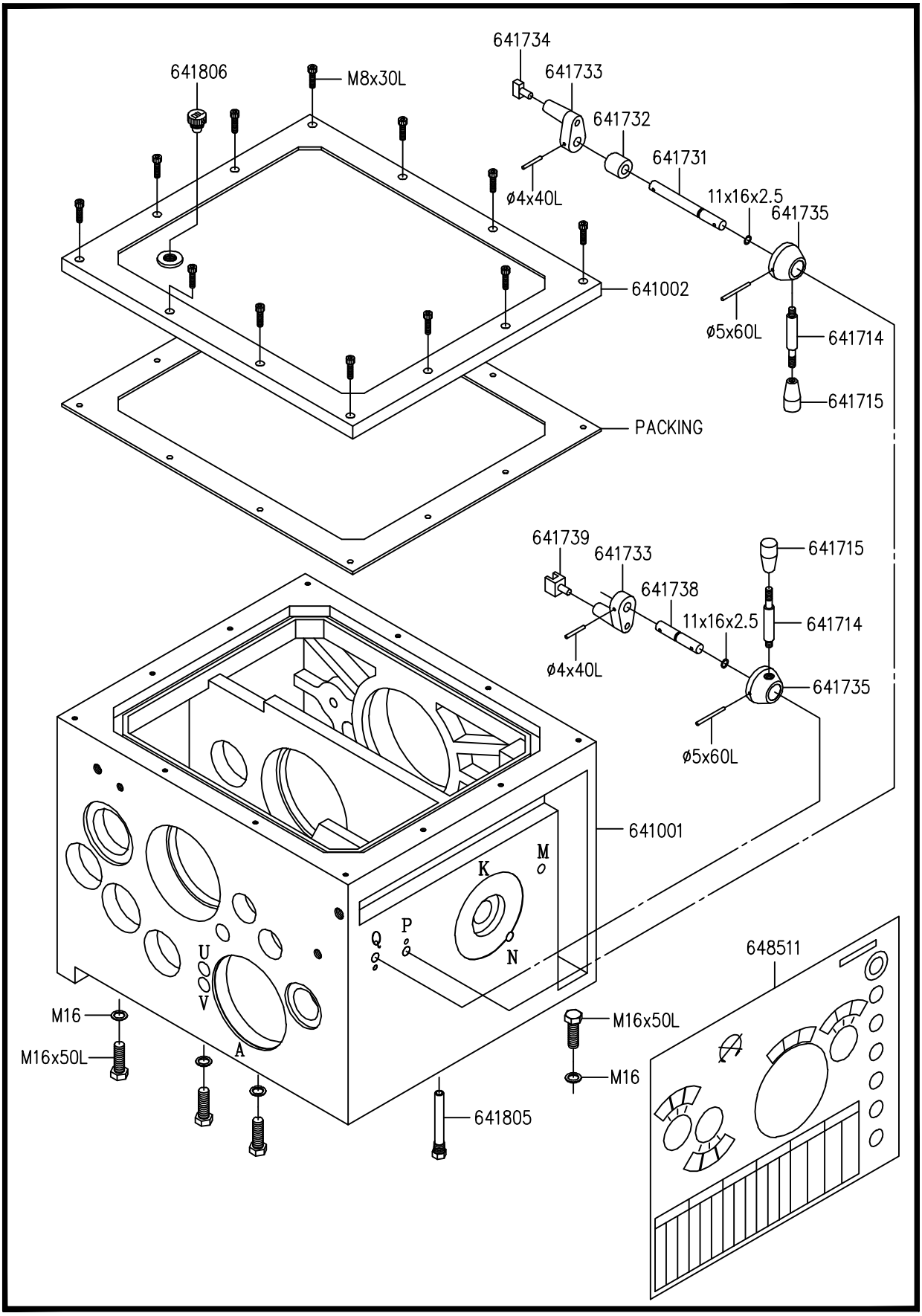
To correct error release the tailstock clamp lever and adjust the two set-over screws provided continue with checking and correction until the alignment is perfect.



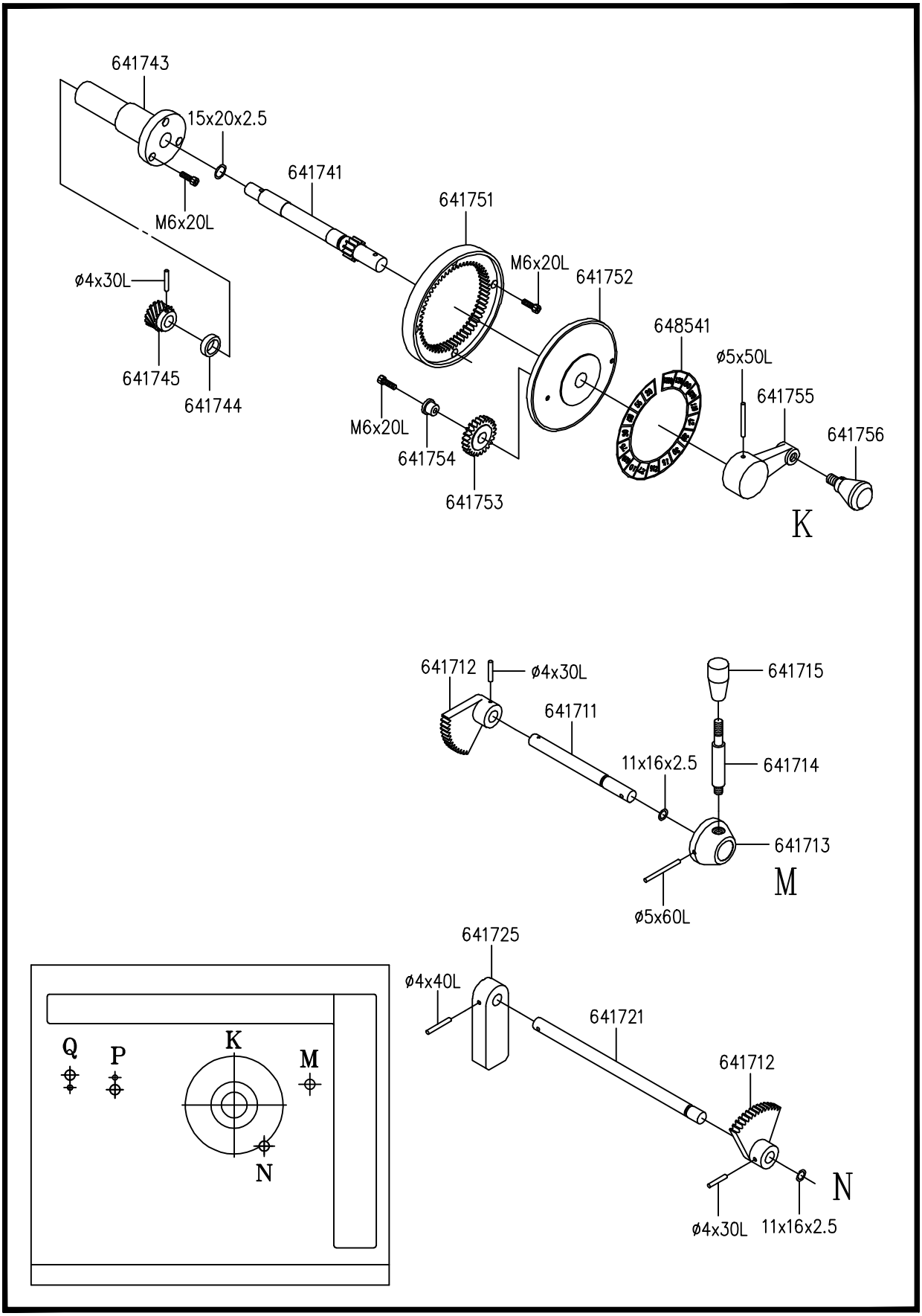


INDEX

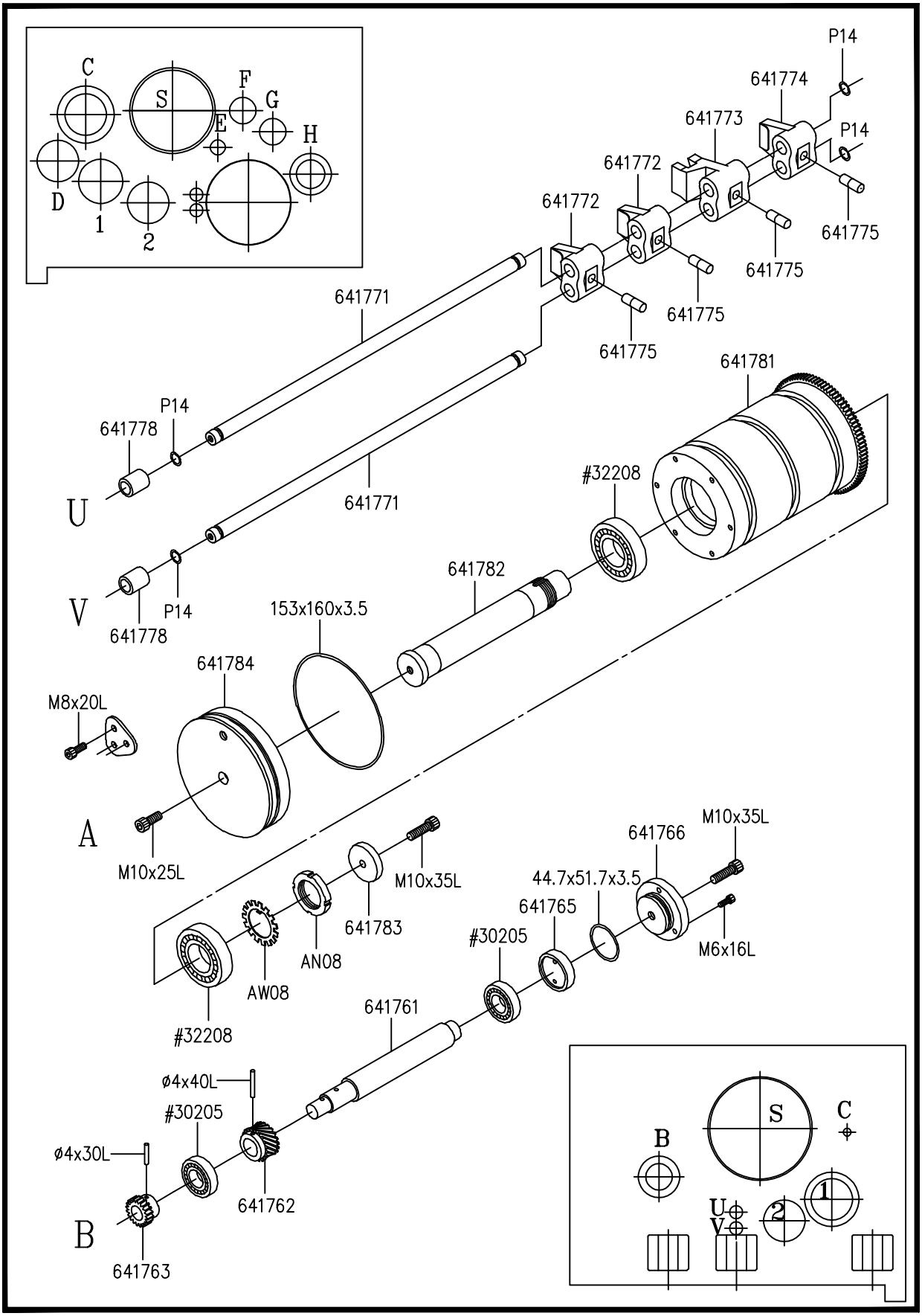
ASSEMBLY HEADSTOCK(Casting Controls)



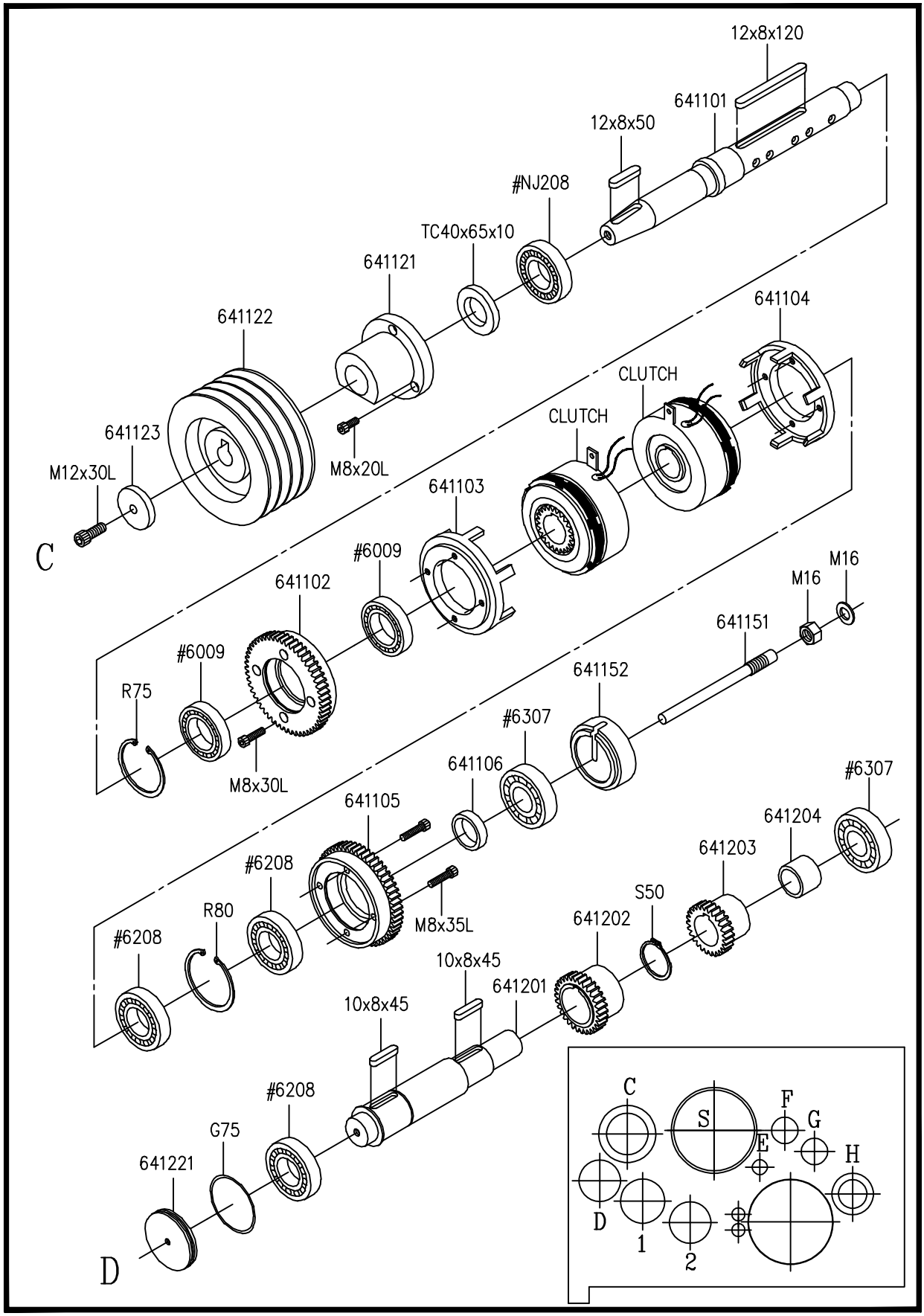
ASSEMBLY HEADSTOCK(Controls)



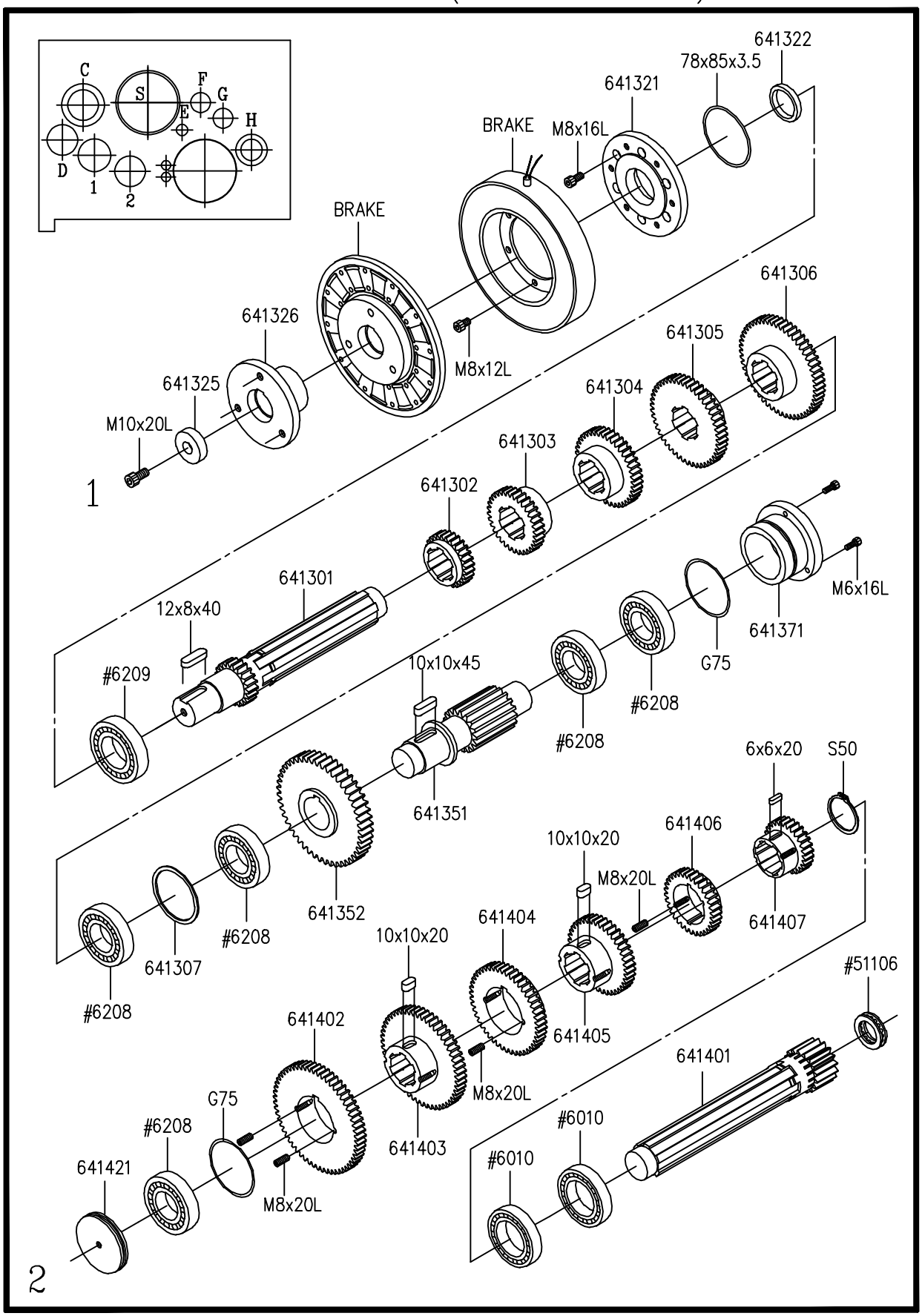
ASSEMBLY HEADSTOCK(Controls)



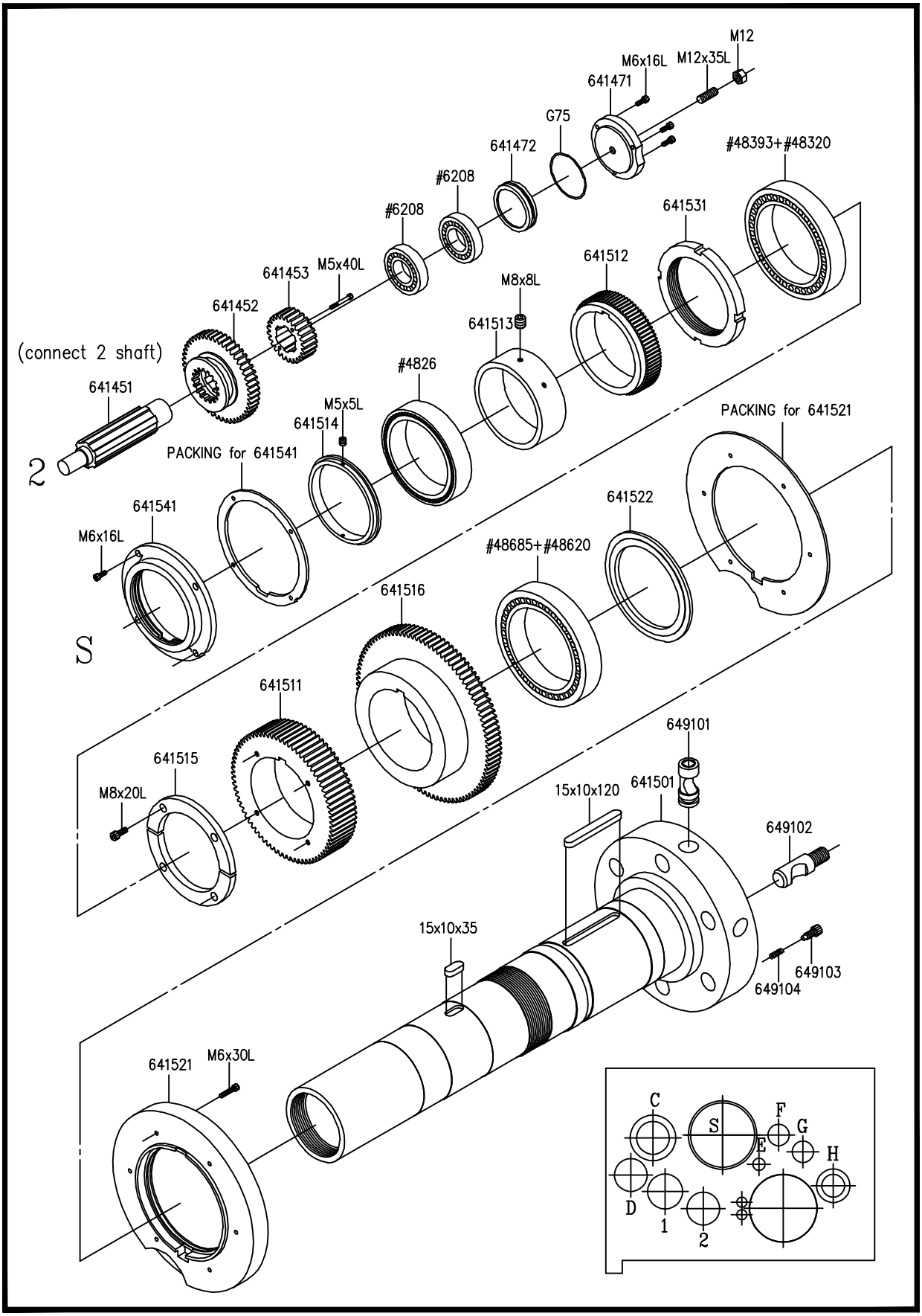
ASSEMBLY HEADSTOCK(Gears & Shaft)



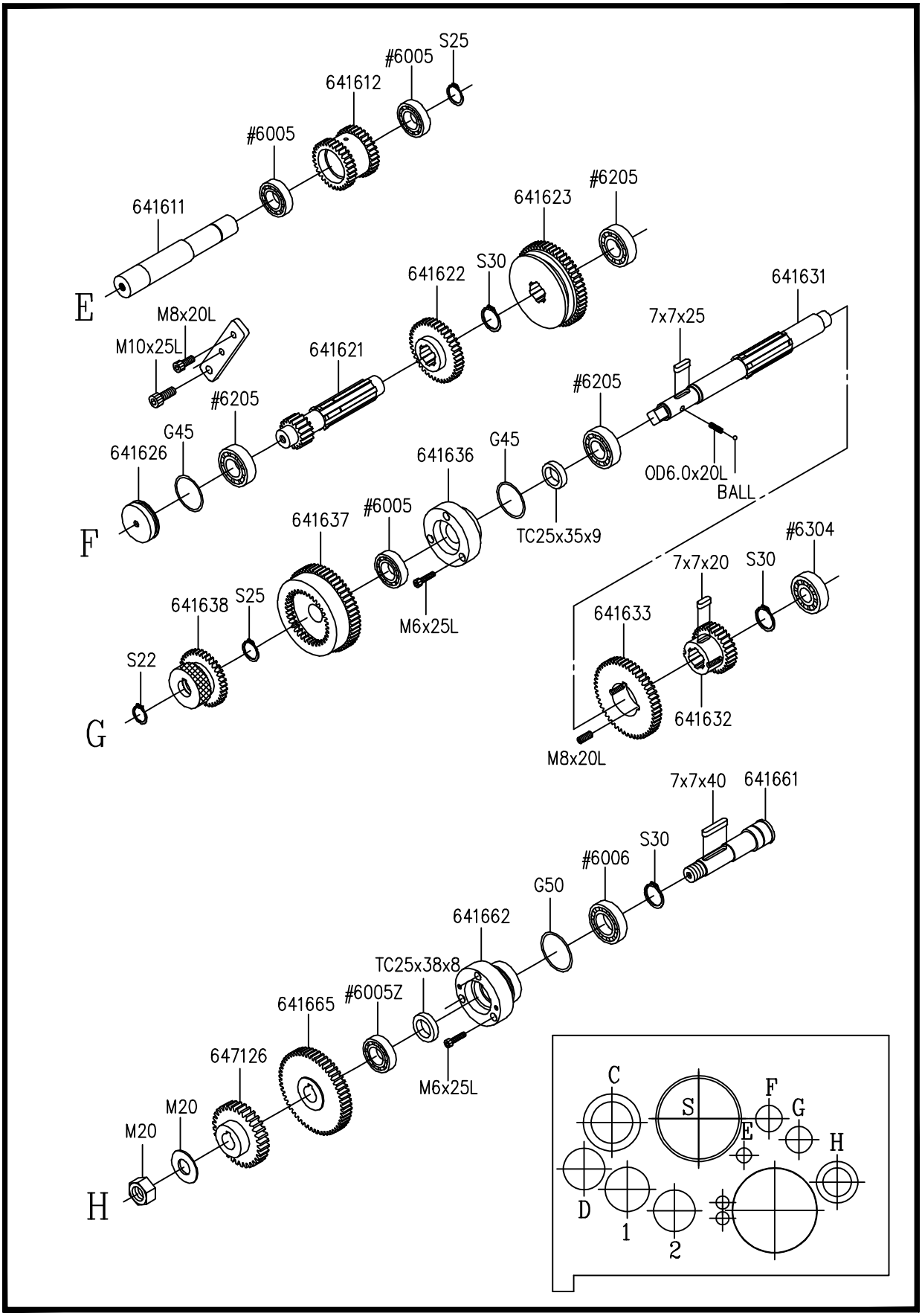
ASSEMBLY HEADSTOCK(Gears & Shaft)



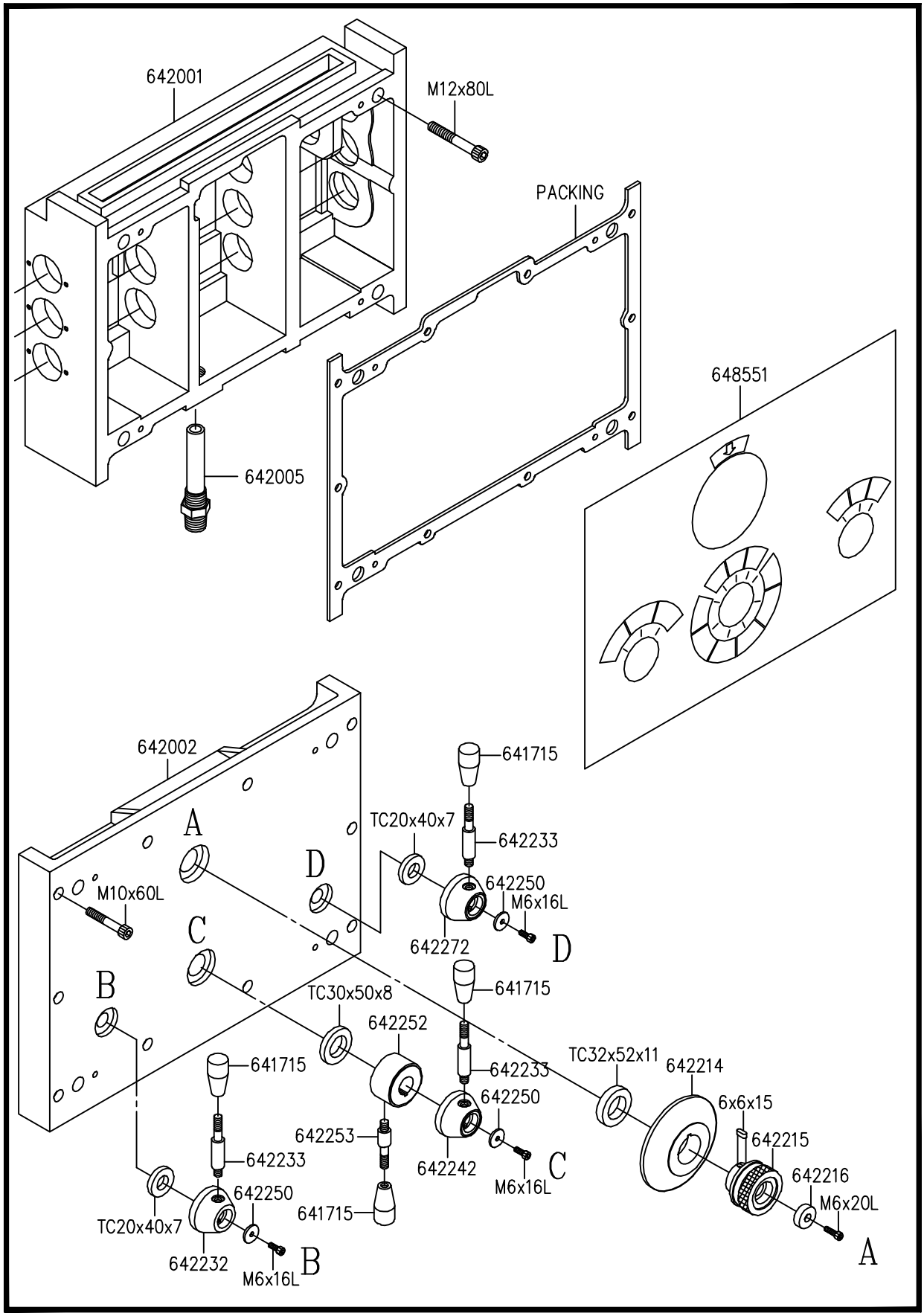
ASSEMBLY HEADSTOCK(Spindle & Gears)



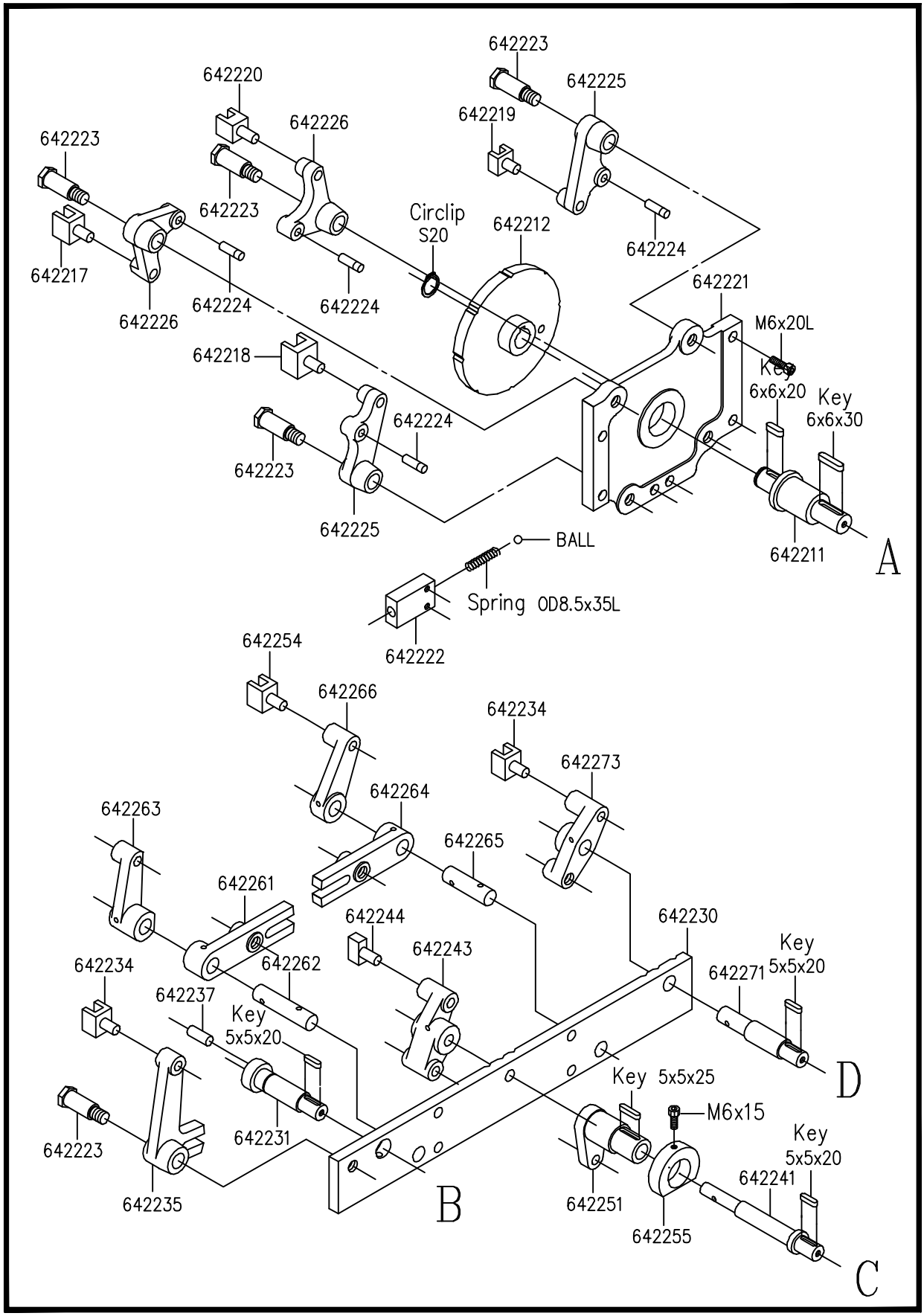
ASSEMBLY HEADSTOCK(Gears & Shaft)



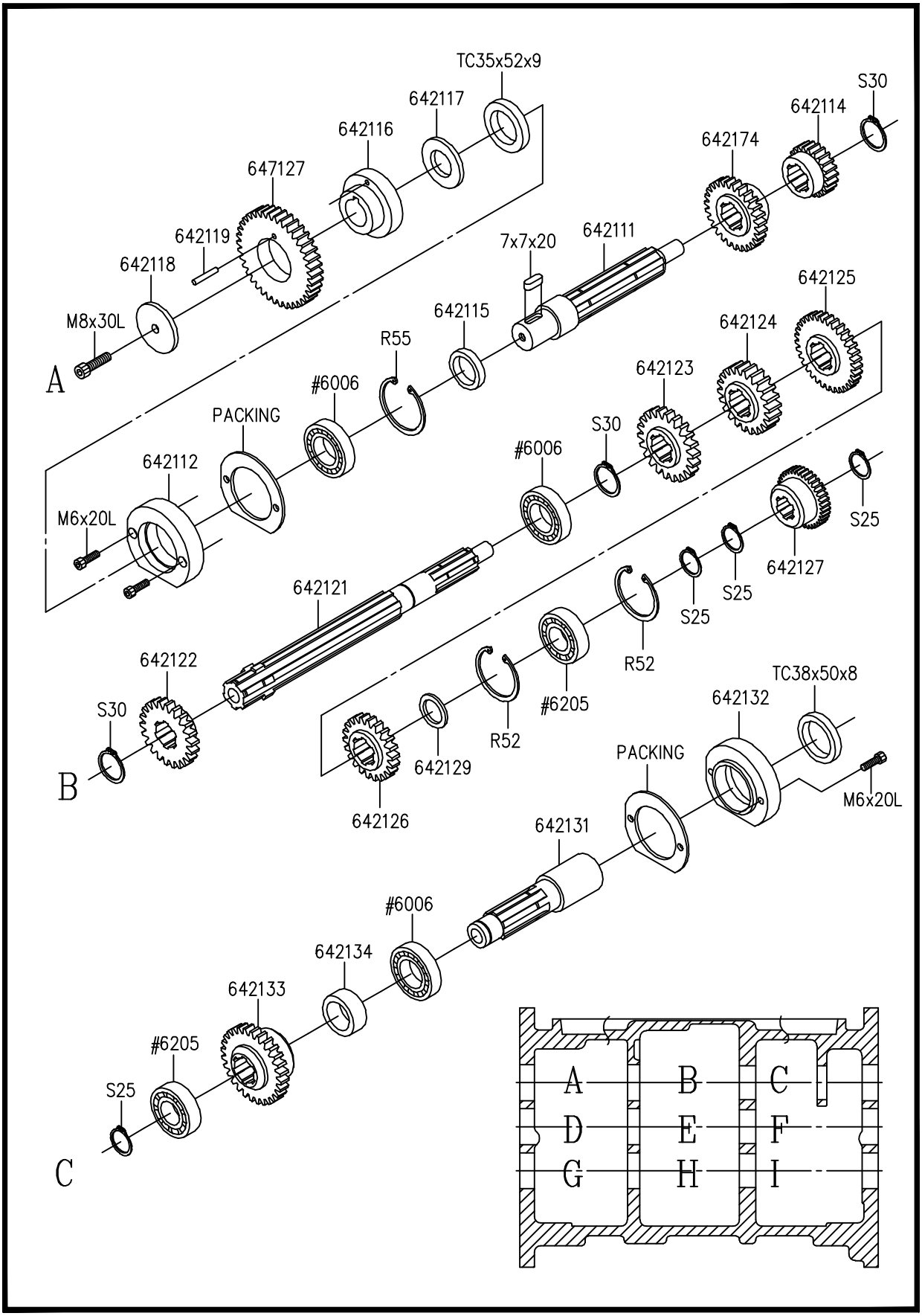
ASSEMBLY GEARBOX(Casting & Controls)



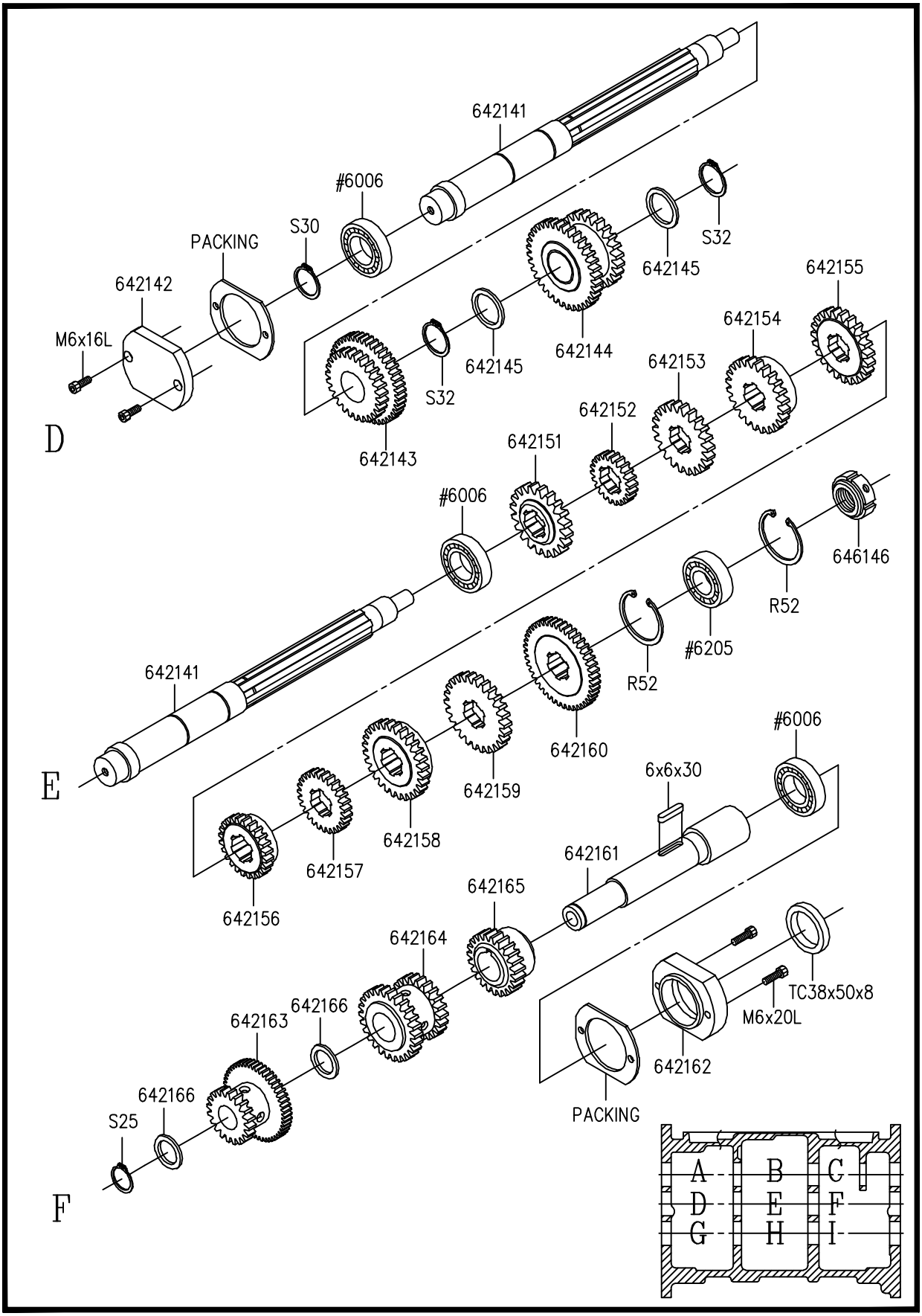
ASSEMBLY GEARBOX(Controls)



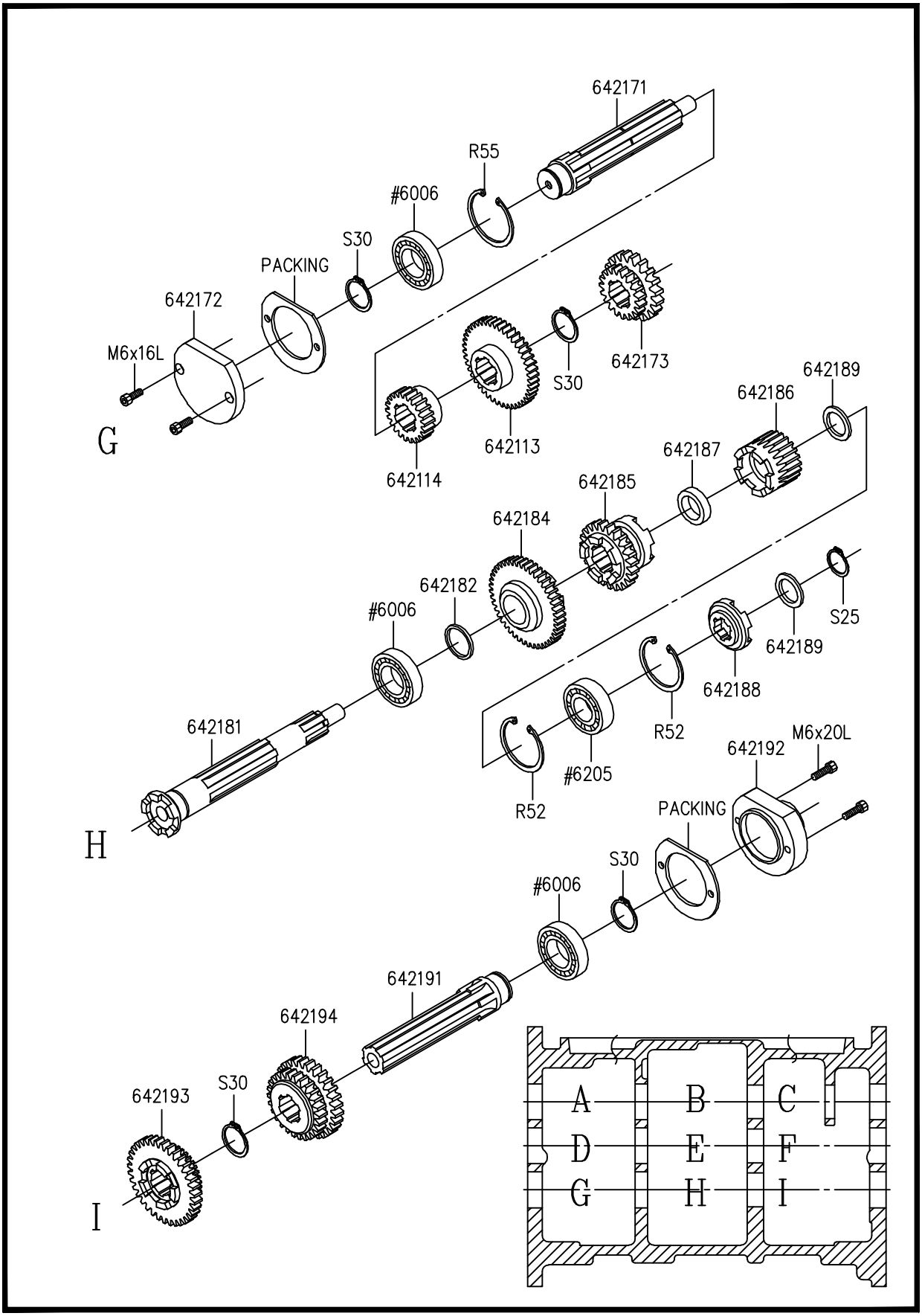
ASSEMBLY GEARBOX(Gears & Shaft)



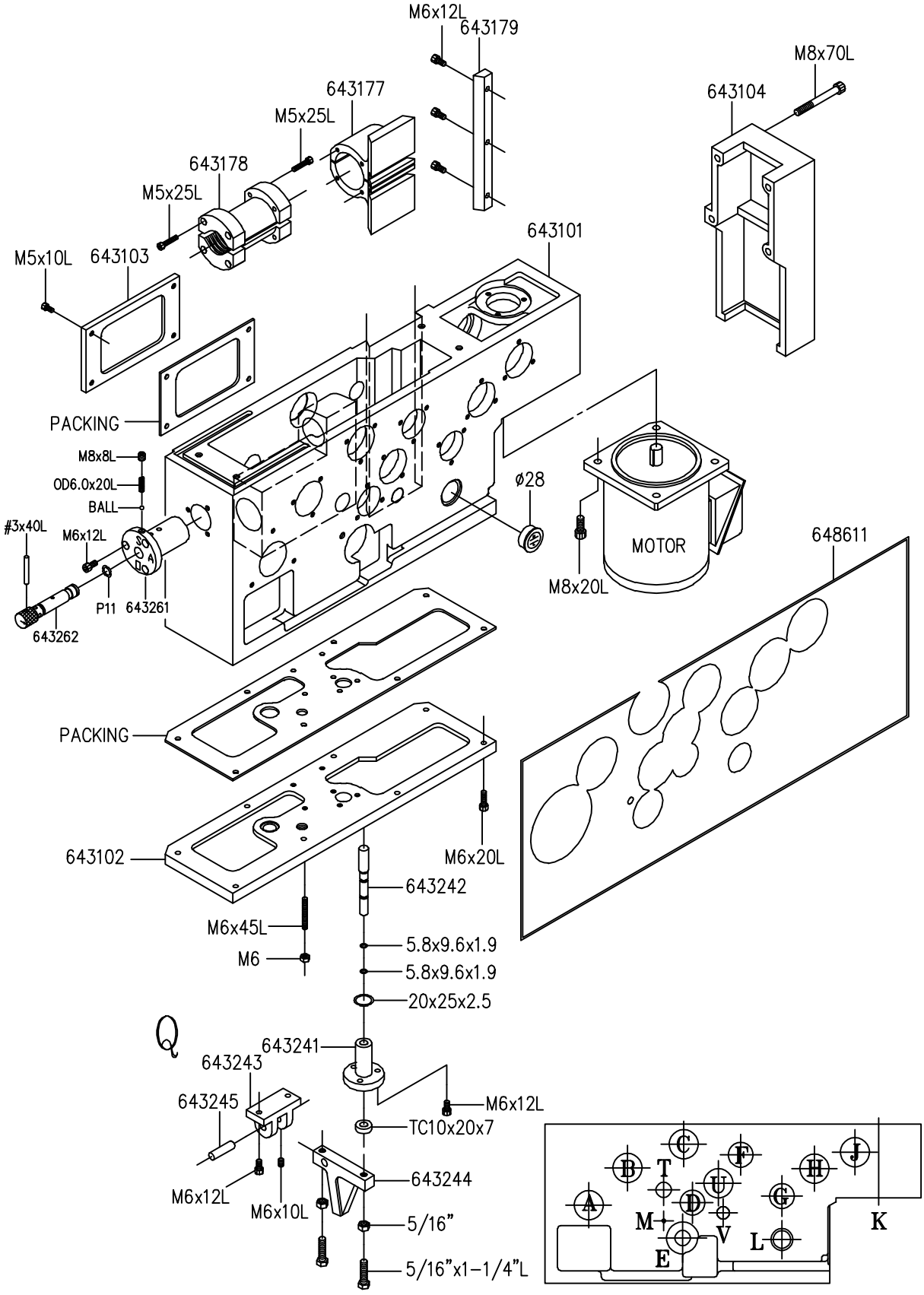
ASSEMBLY GEARBOX(Gears & Shaft)



ASSEMBLY GEARBOX(Gears & Shaft)



ASSEMBLY APRON(Casting)



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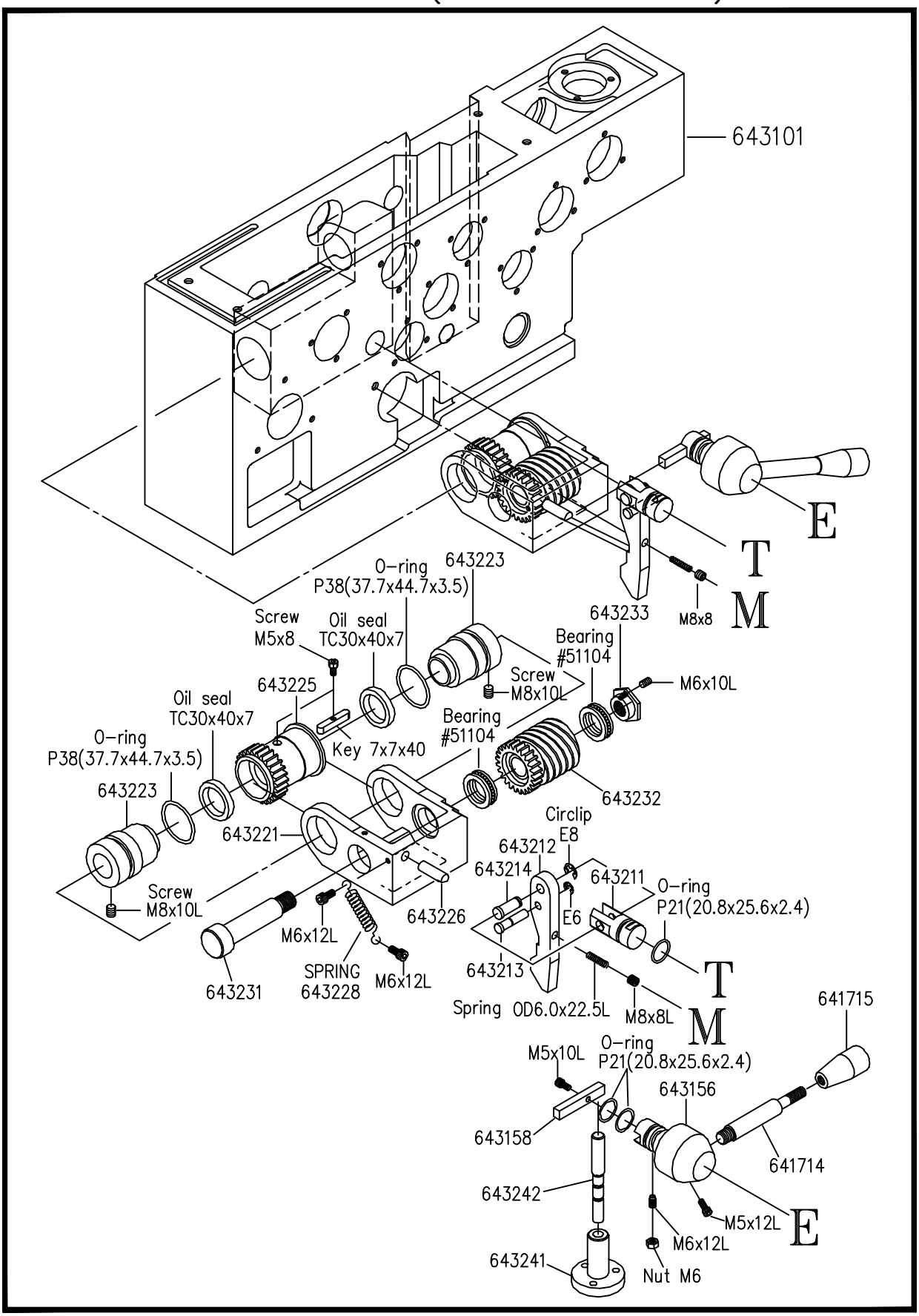
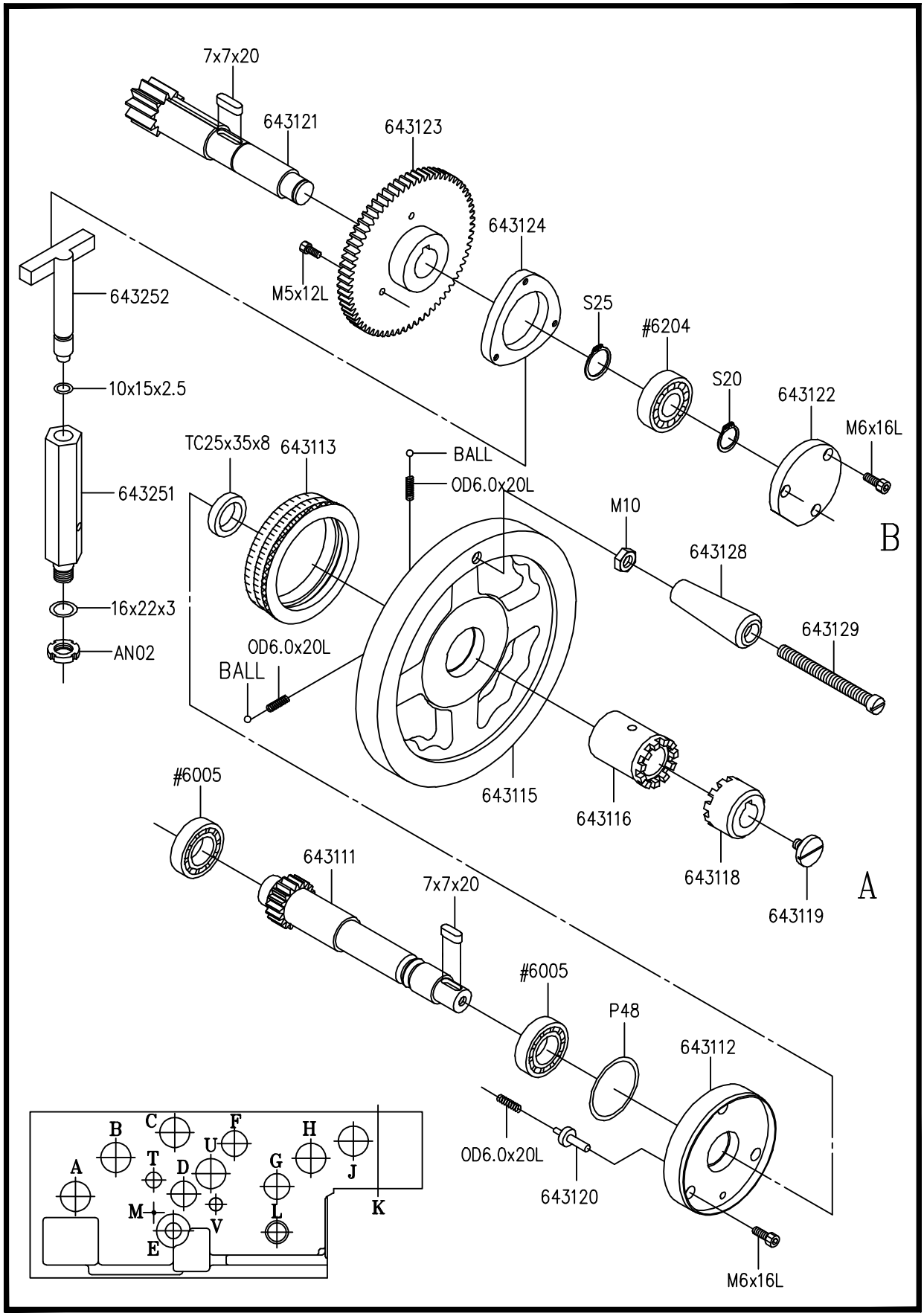
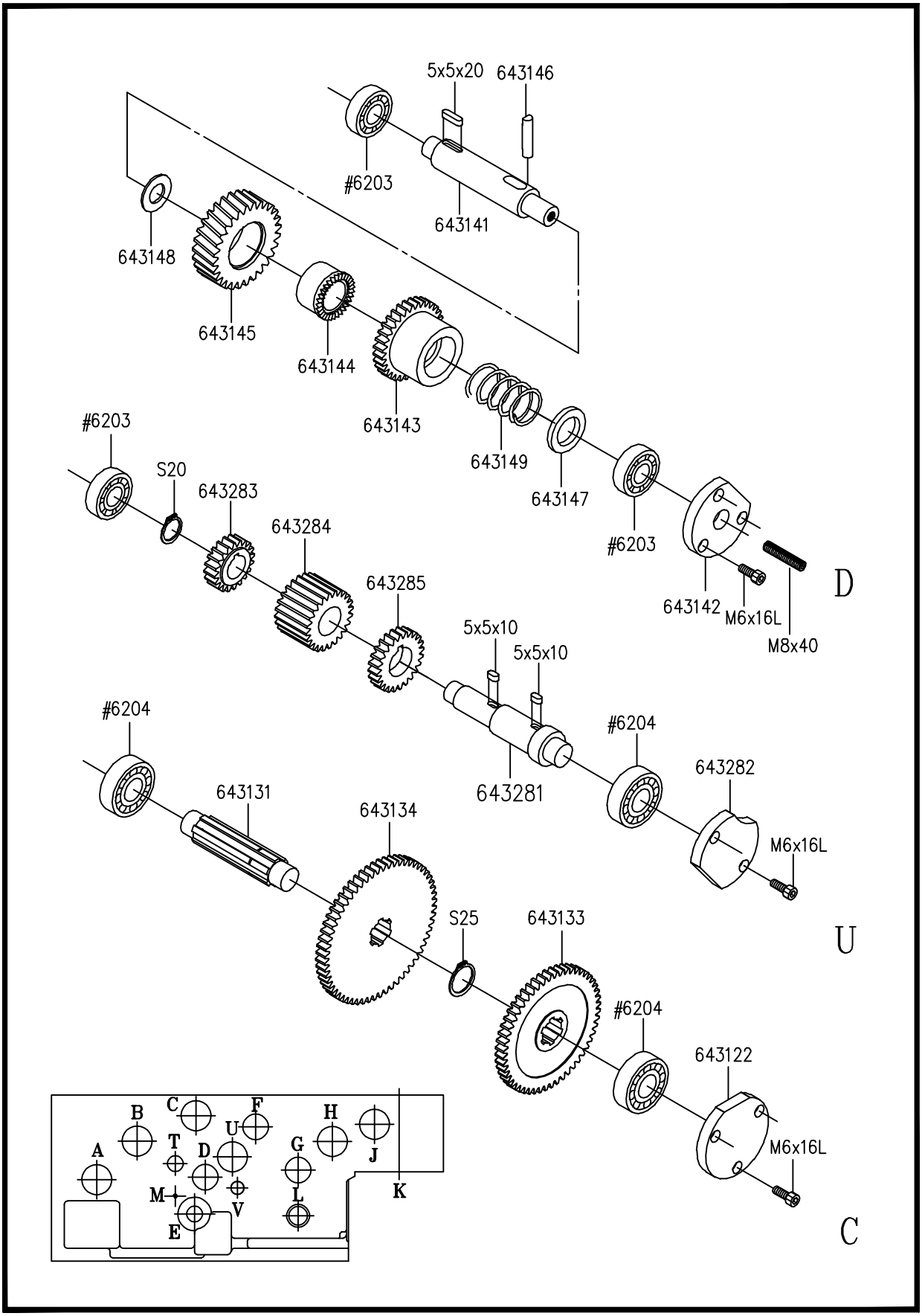
ASSEMBLY APRON(Gears & Shaft)



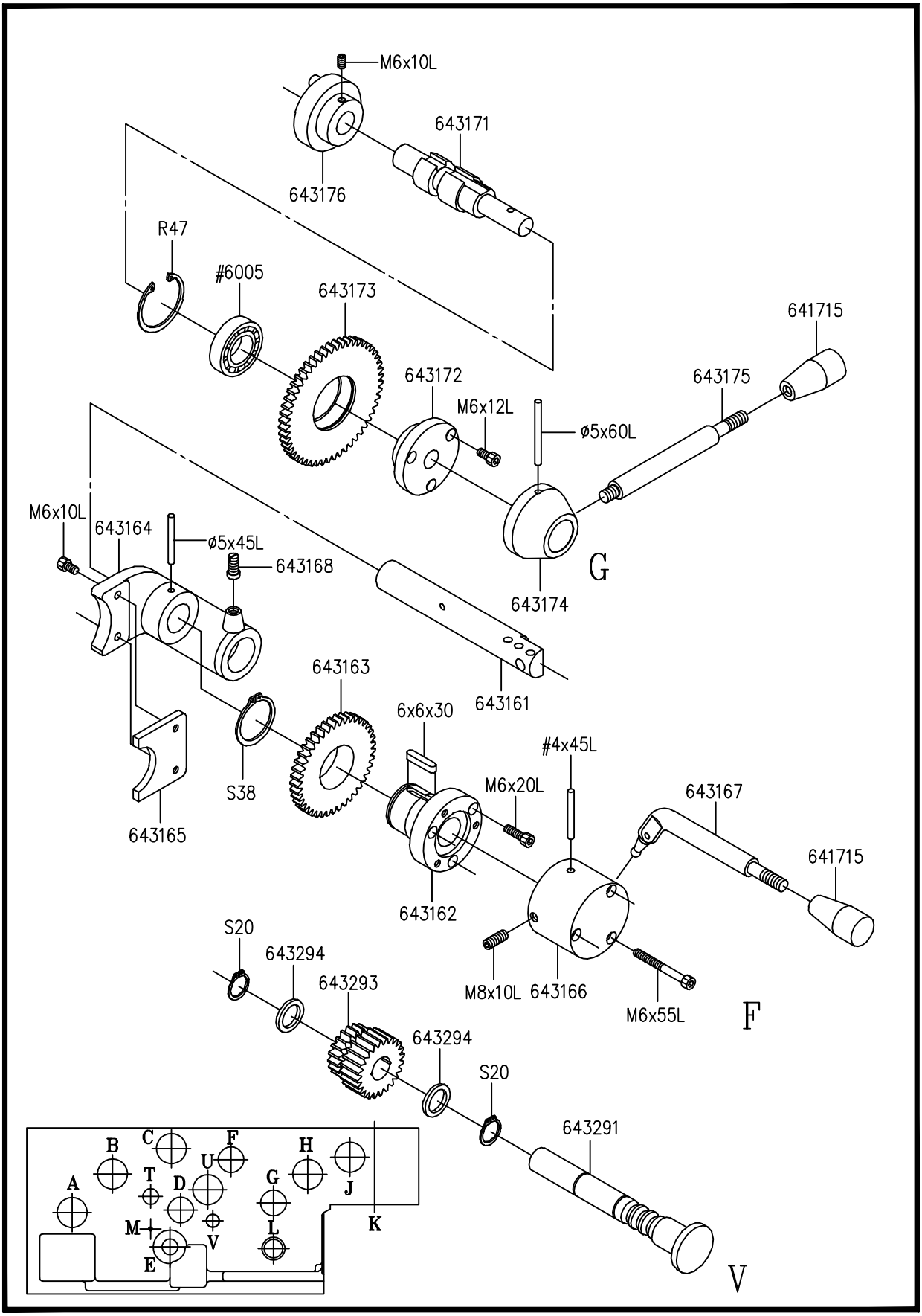
ASSEMBLY APRON(Gear & Shaft)



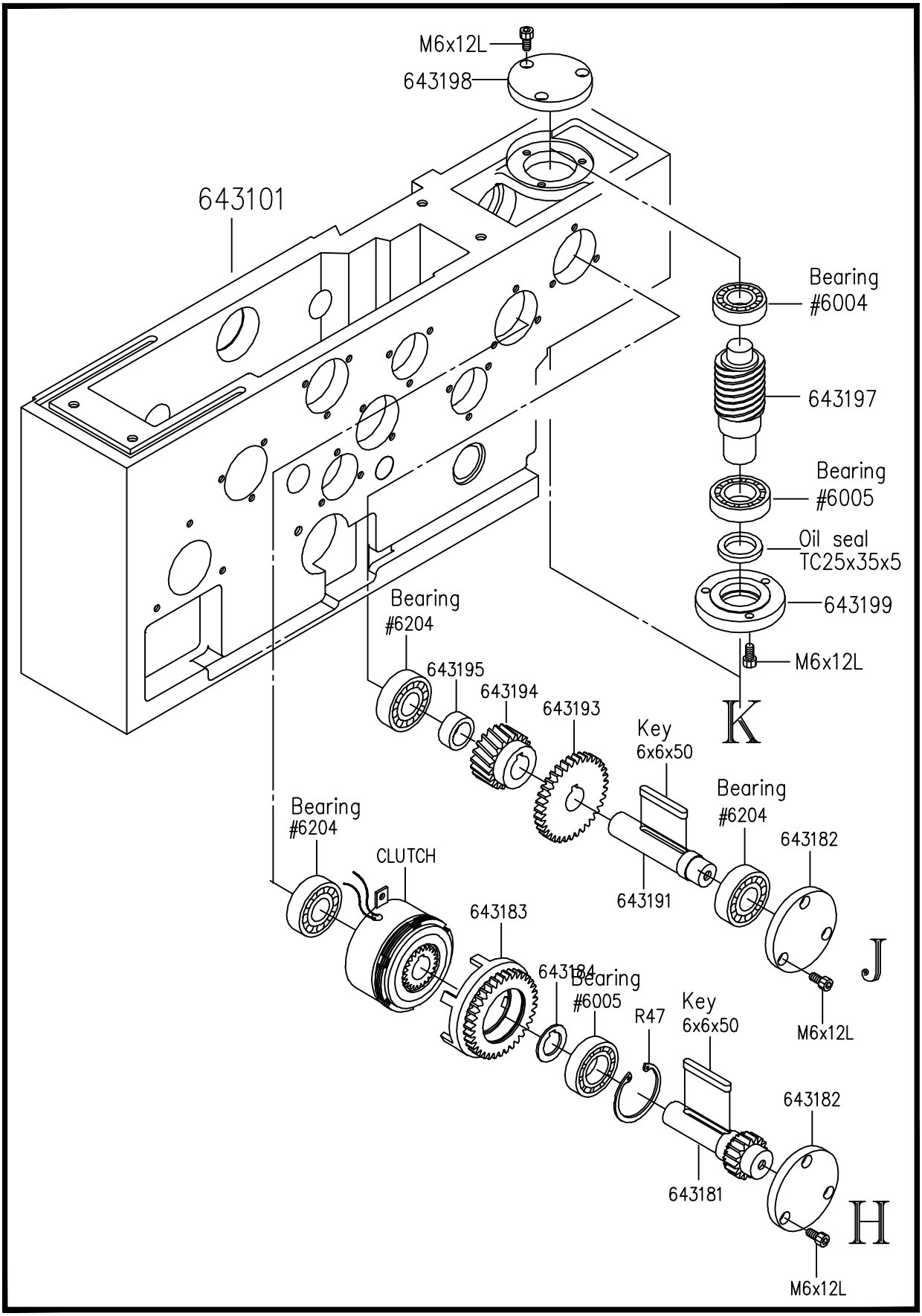
ASSEMBLY APRON(Gears & Shaft)



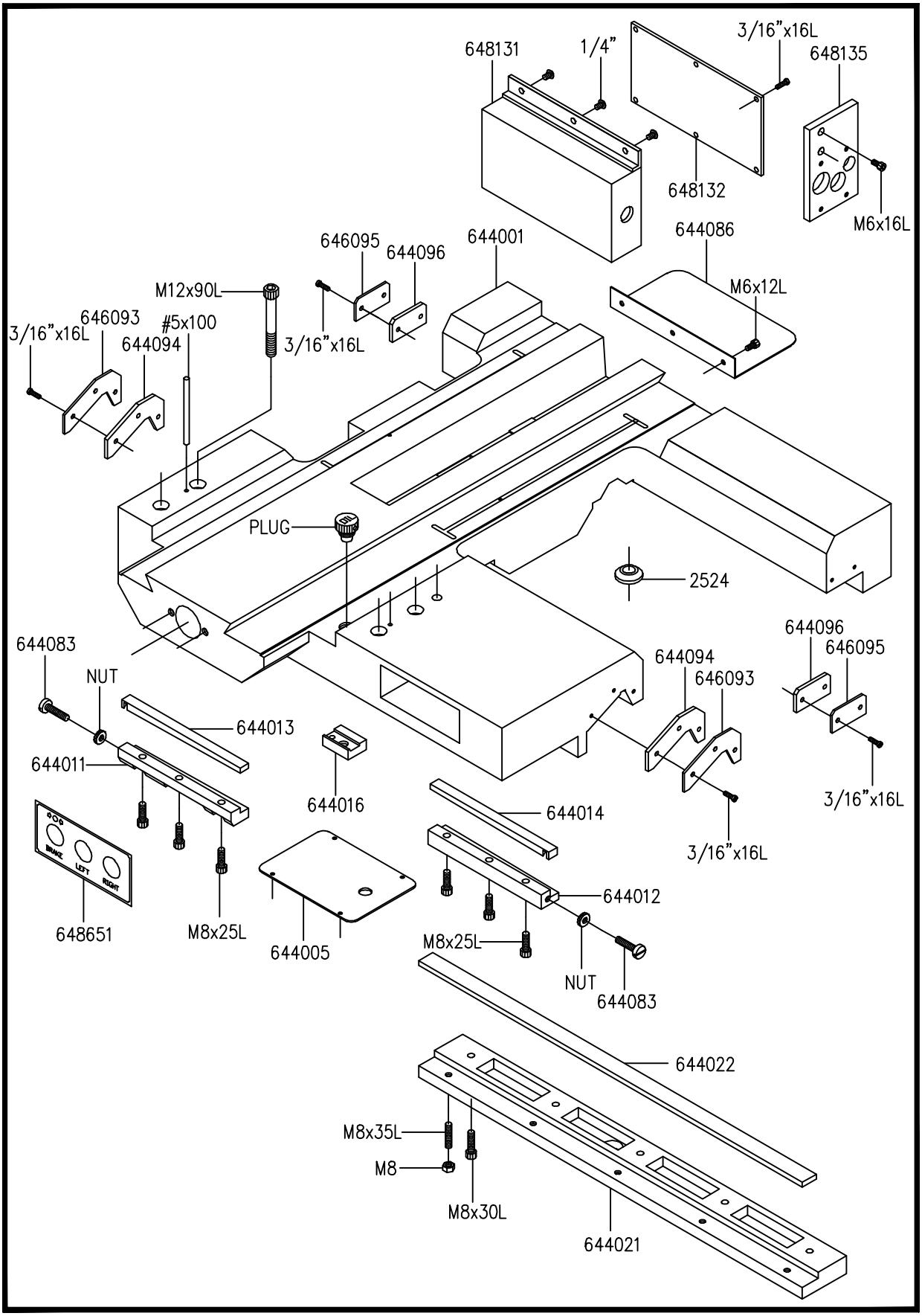
ASSEMBLY APRON(Gears & Shaft)



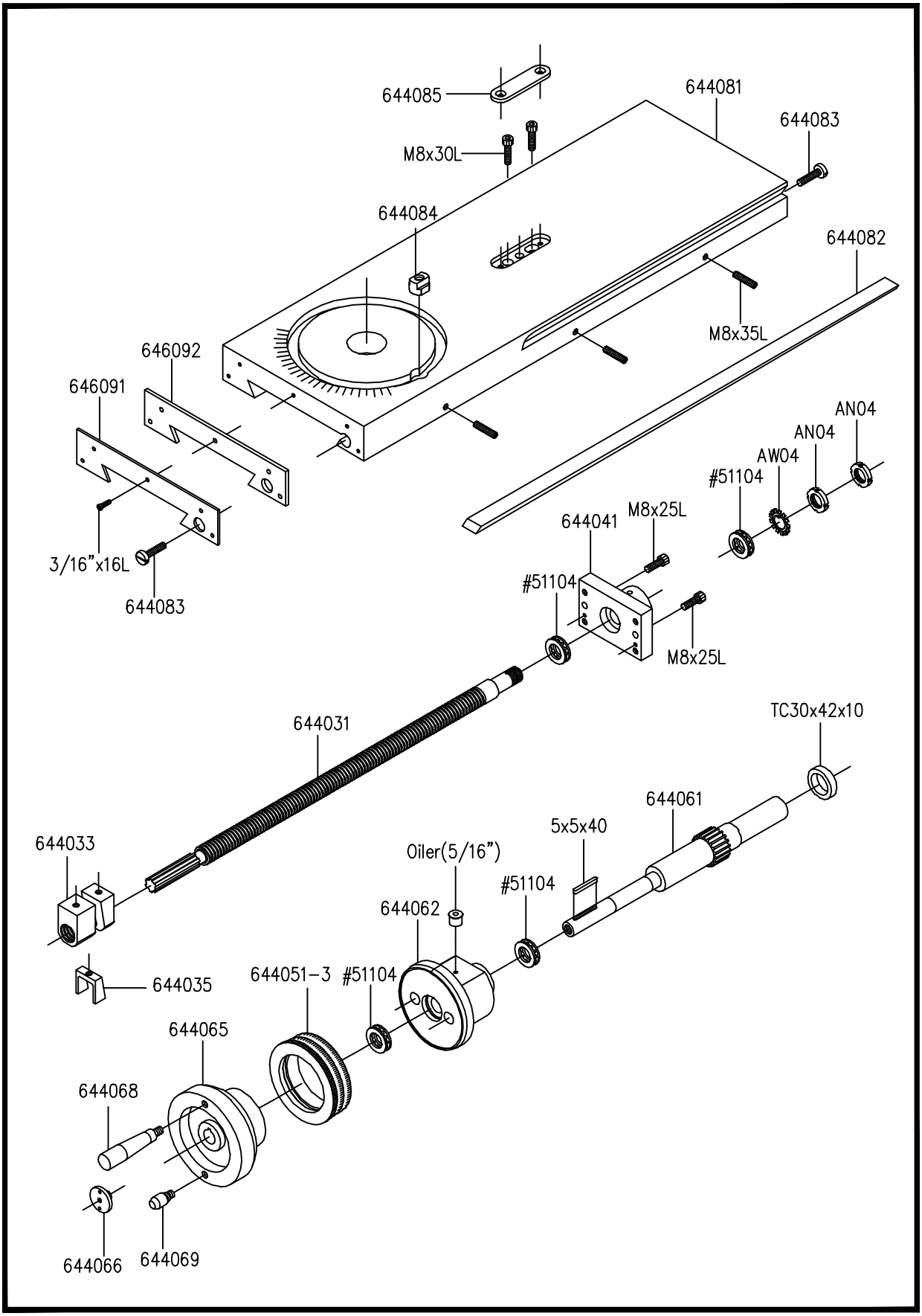
ASSEMBLY APRON(Gears & Shaft)



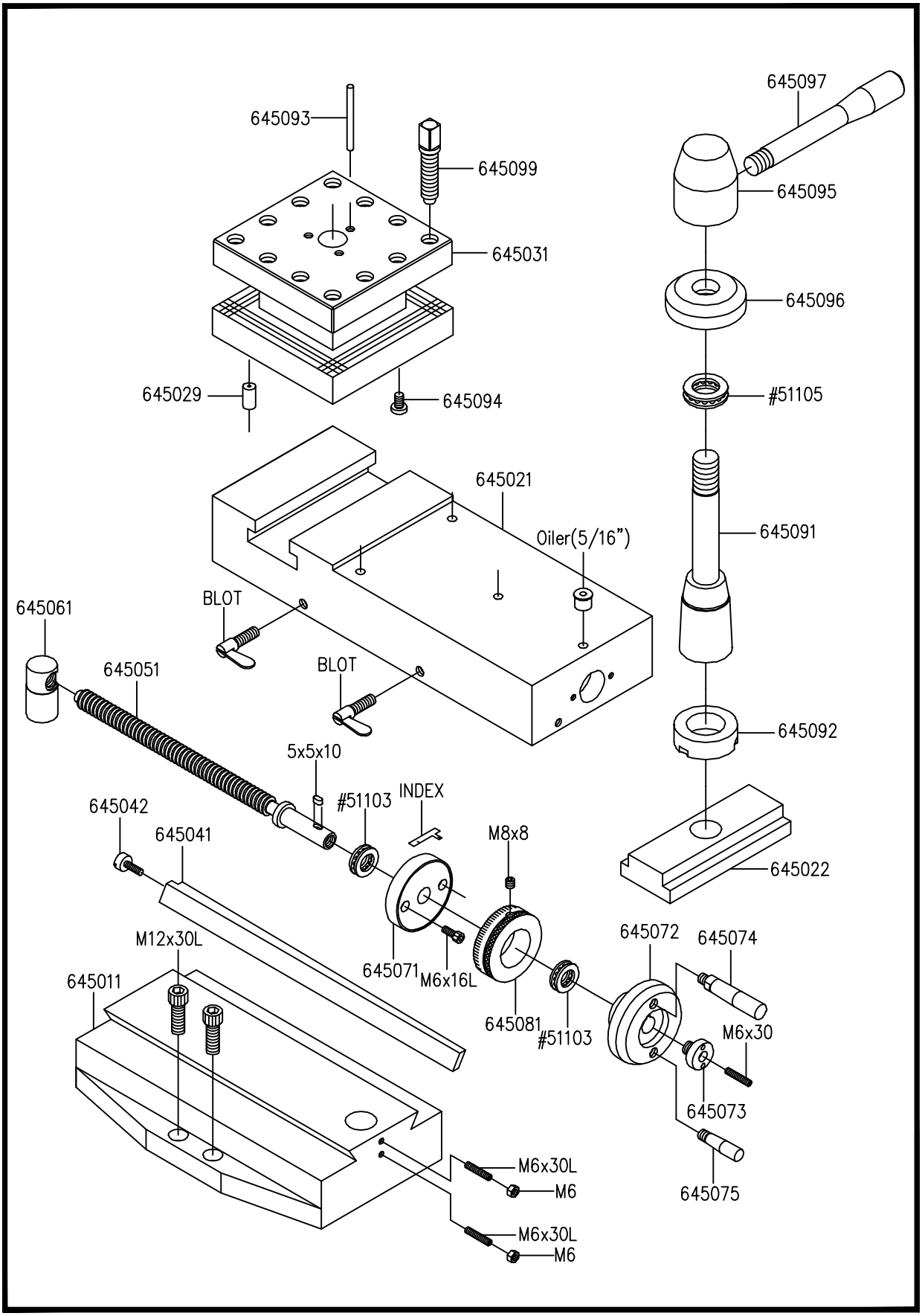
ASSEMBLY SADDLE



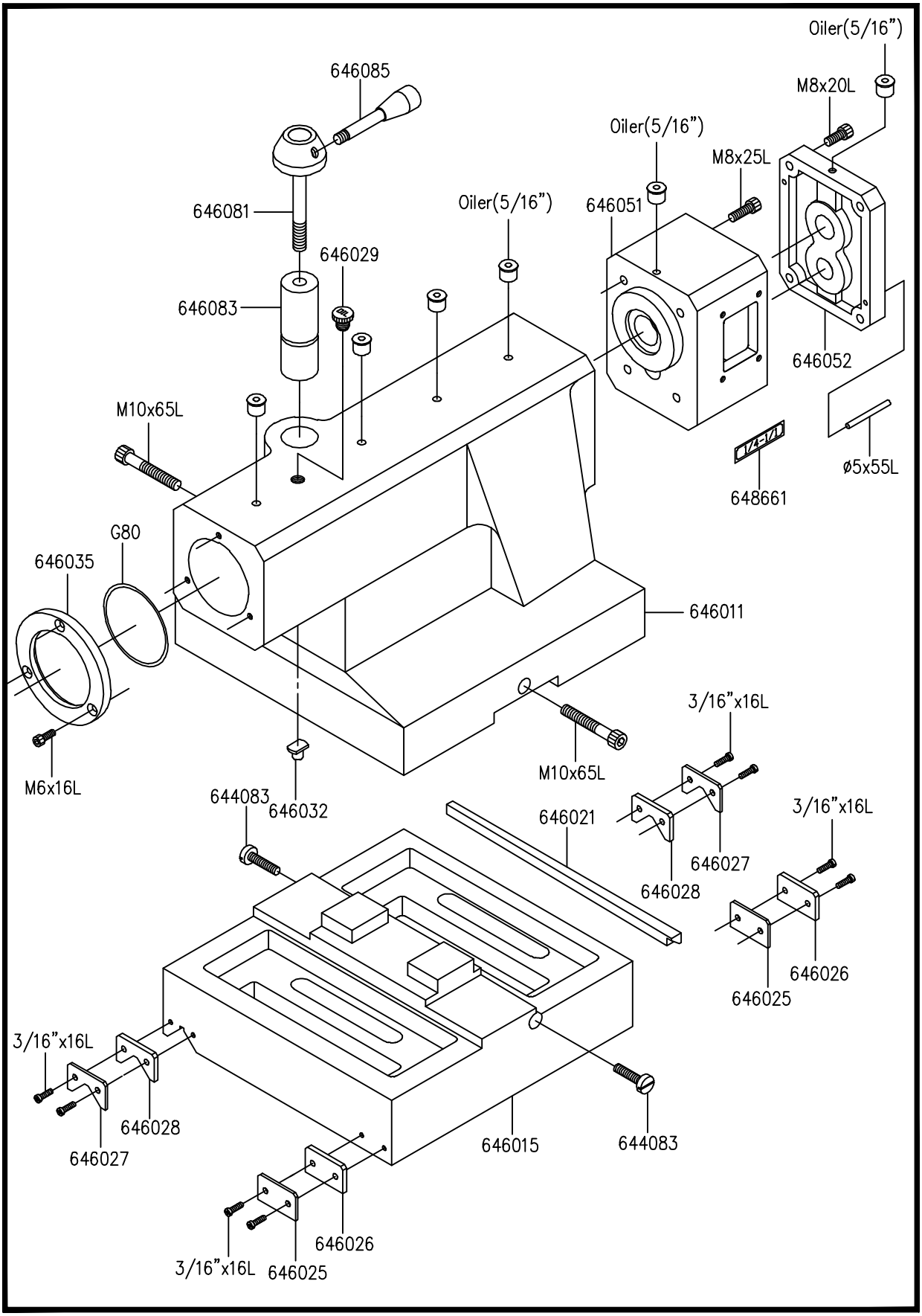
ASSEMBLY CROSS-SLIDE



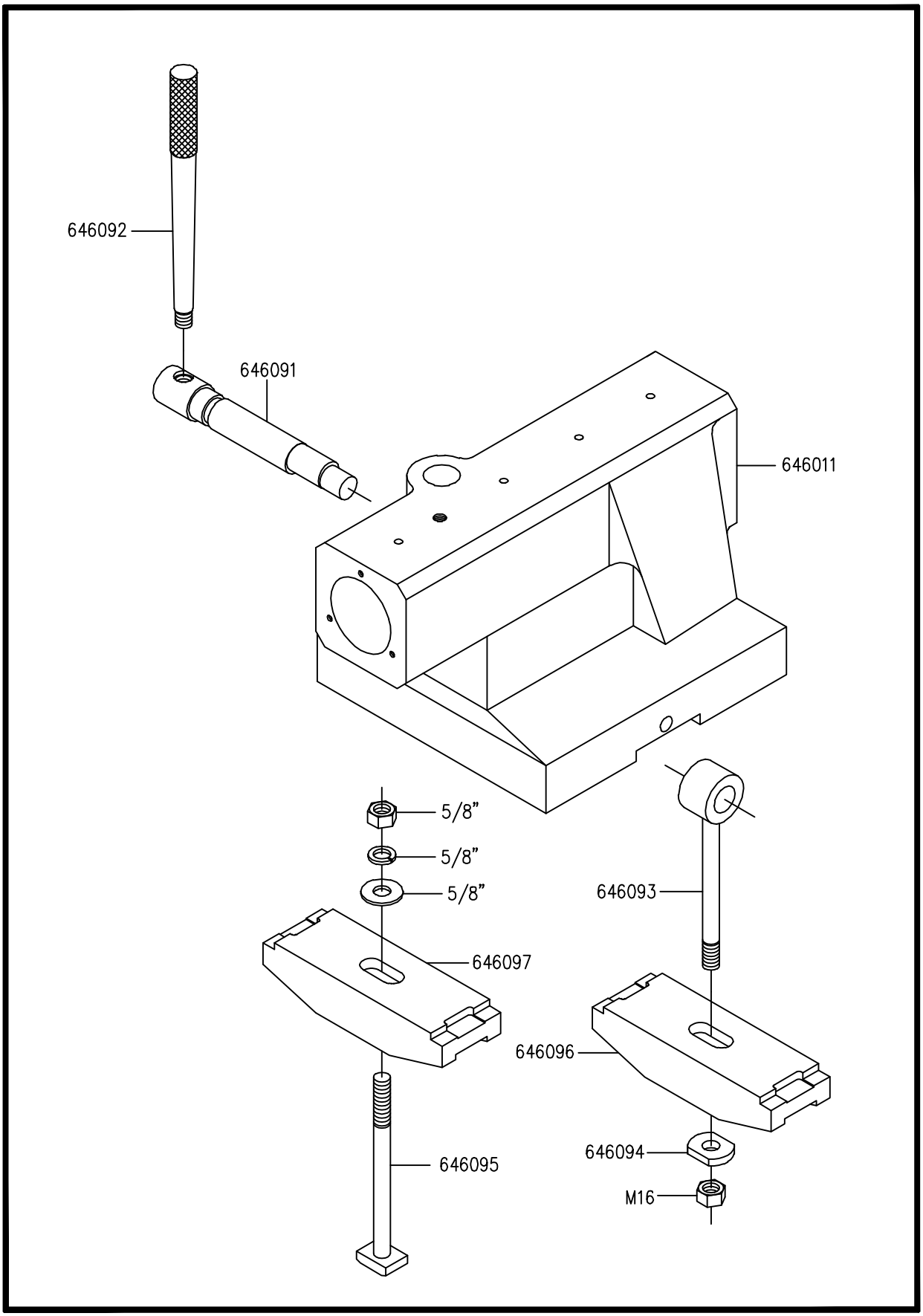
ASSEMBLY TOP-SLIDE



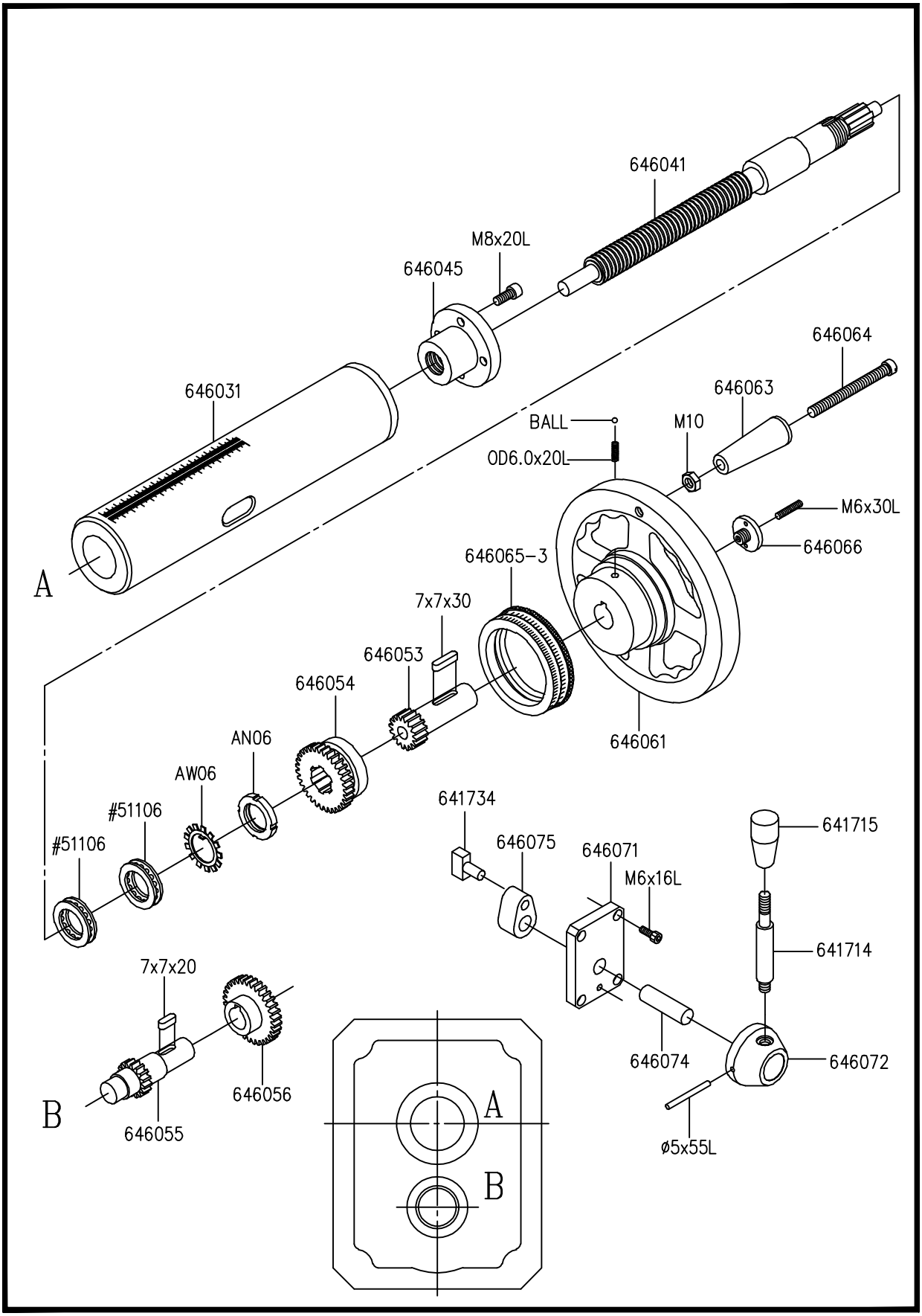
ASSEMBLY TAILSTOCK



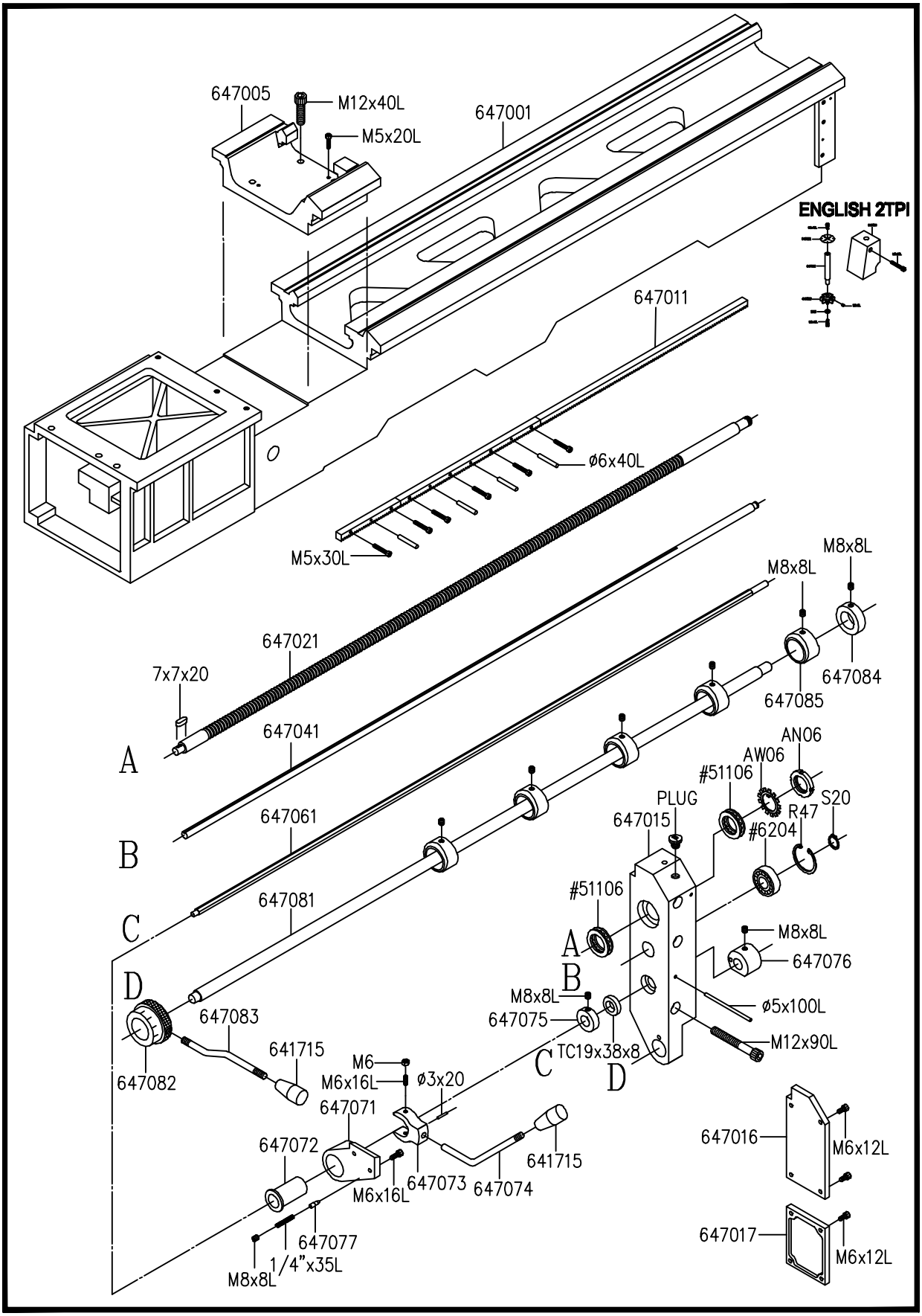
ASSEMBLY TAILSTOCK



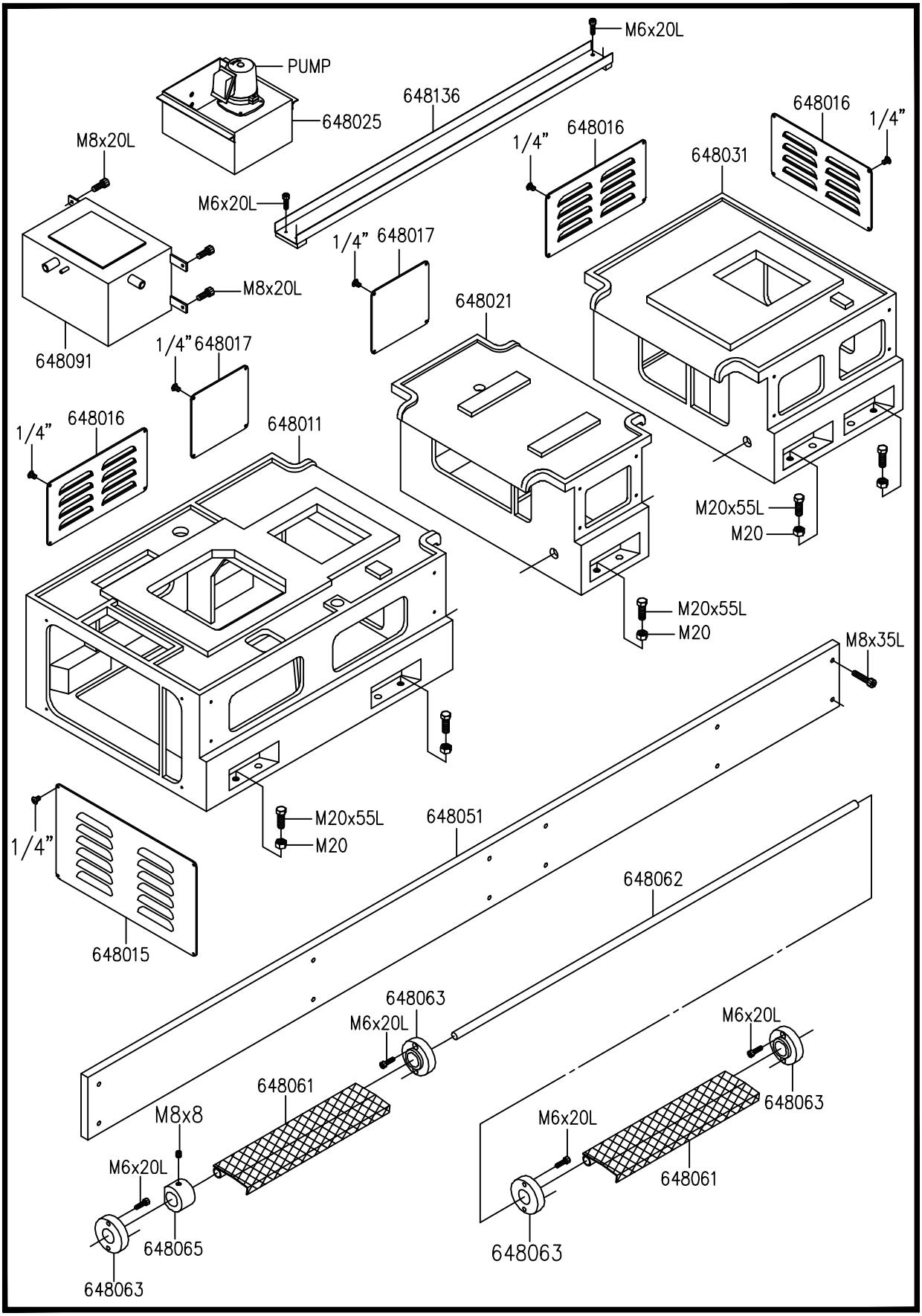
ASSEMBLY TAILSTOCK



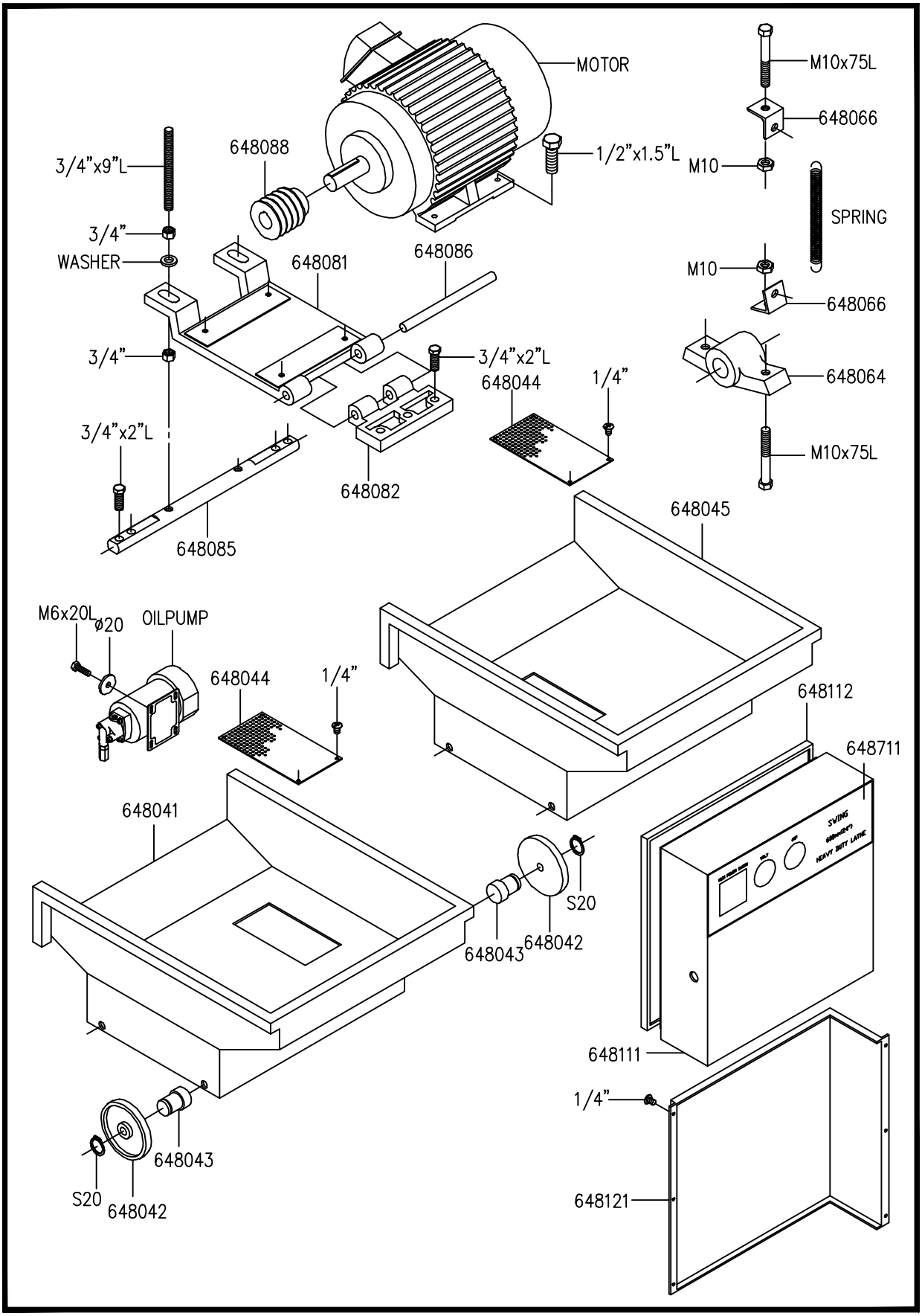
ASSEMBLY BED,SHAFT



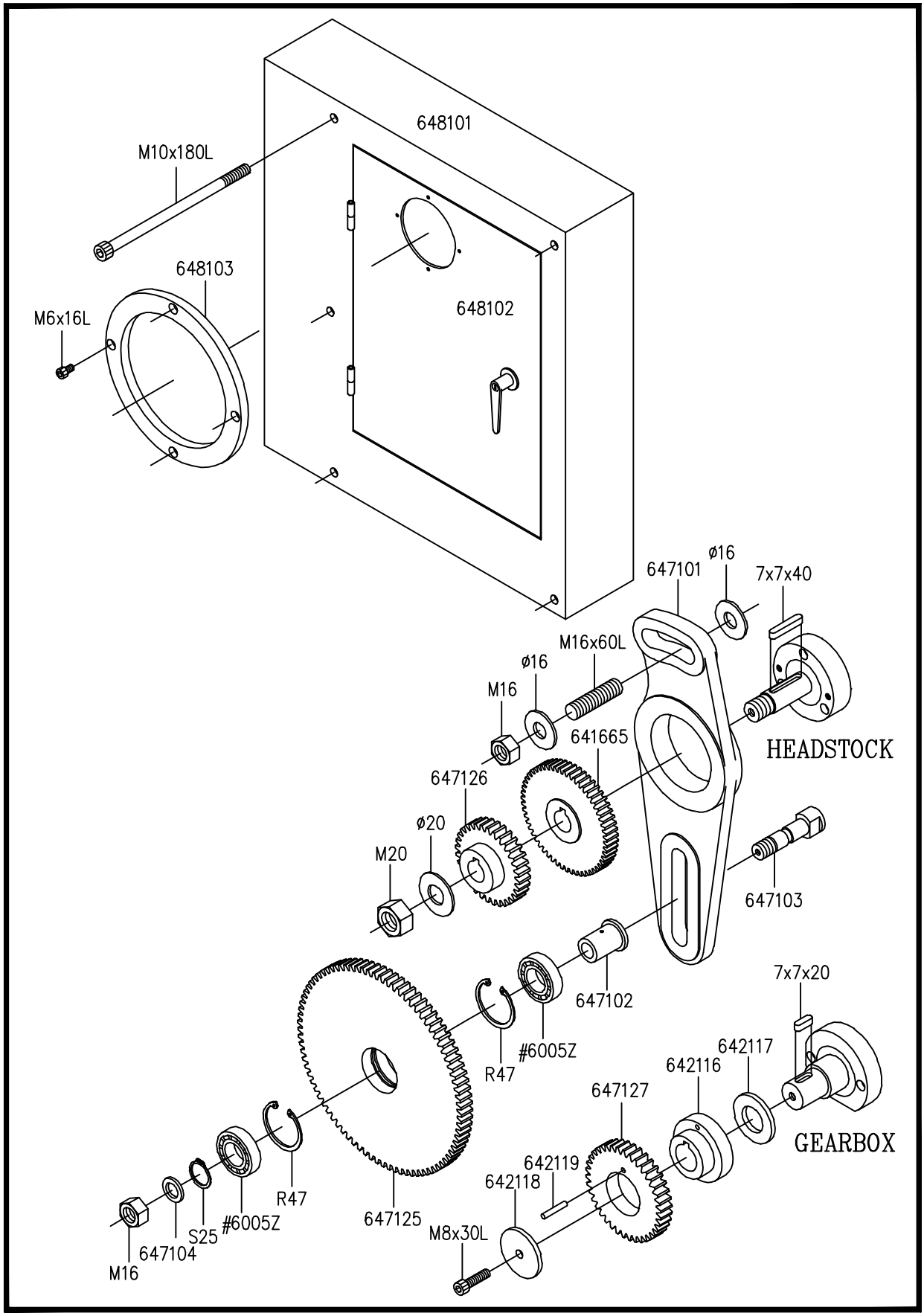
ASSEMBLY CABINET & PANELS



ASSEMBLY CABINET & PANELS

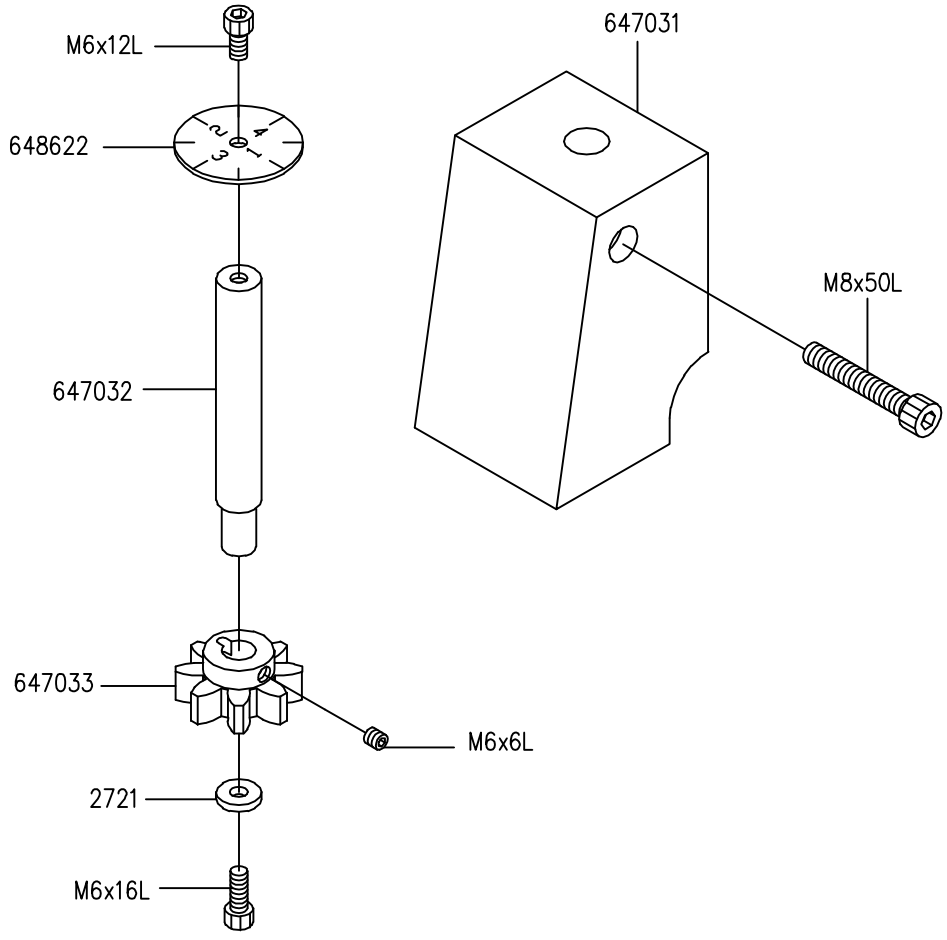


ASSEMBLY SWING FRAME & END GEARS



ASSEMBLY THREADING DAILS

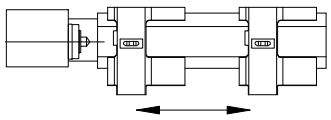
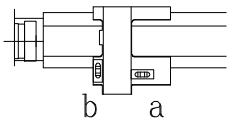
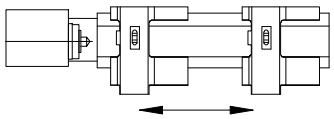
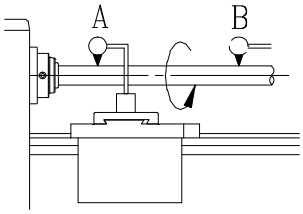
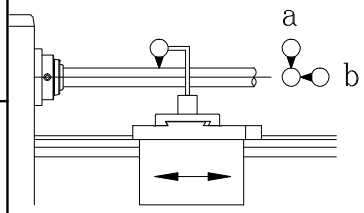
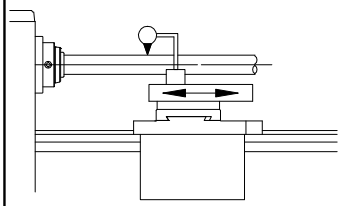
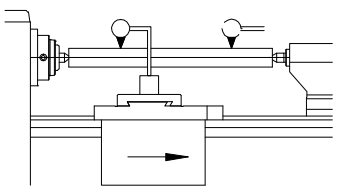
ENGLISH (LEADSCREW 2 TPI)



STATIC ACCURACY TEST

swing 500 and over and under 1000

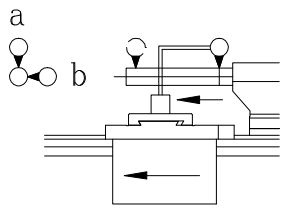
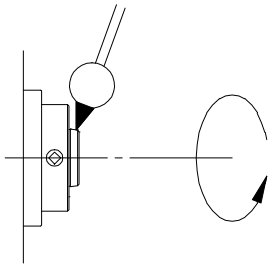
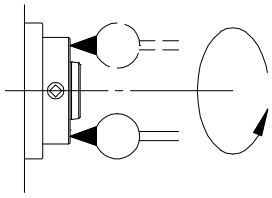
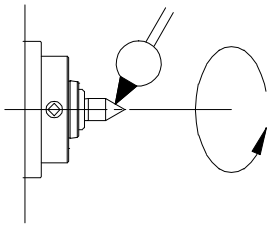
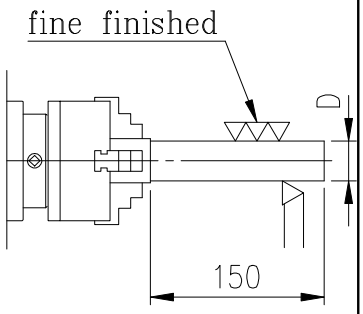
CNS

TYPE:			MACHINE SERIAL NO.		
NO.	SUBJECT OF MEASUREMENT		ILLUSTRATION	PERMISSIBLE ERROR	MEASURED ERROR
1.	Levelling of machine	(a) in longitu-dinal direction	(a) 	±0.05 mm/m (convex)	
		(b) in transverse direction	 b a (b) 	±0.05 mm/m	
2.	Taper of spindle runs true		300 mm long A B 	Position A : 0.02 mm	
				Position B : 0.03 mm	
3.	Spindle parallel with traverse of carriage	(a) in vertical plane	 a b	(a) 0.02/ 300 mm	
		(b) in horizontal plane		(b) 0.02/ 300 mm	
4.	Upper Slide (Parallelism of the Slide Longitudinal Movement to the Spindle Axis)			0.02/150 mm	
5.	Axis of centres parallel with bed in vertical plane		A B 	0.03/ 300 mm	

STATIC ACCURACY TEST

swing 500 and over and under 1000

CNS

6.	Tailstock spindle parallel with carriage guides (carriage traverse)	(a) in vertical plane		(a) 0.03/ 150 mm	
		(b) in horizontal plane		(b) 0.015/ 150 mm	
7.	Centring register of spindle runs true			0.02 mm	
8.	Spindle for axial float and ture running of face of spindle flange			0.02 mm	
9.	Centre runs true			0.02 mm	
10.	Working accuracy of lathe on cylindrical turning			0.02mm (cylindricity) (D=25mm ~50mm)	

CHIEF ENGINEER :	INSPECTING ENGINEER :