

"LES INNOVATIONS MECANIKUES"

INSTRUCTIONS for SETTING UP TYPE T.5 LATHE and MAINTENANCE

LATHE n° 4314

CUSTOMER: St^e HORSTMANN MACHINE TOOL COMPANY INC. NY

- 1°) TO UNLOAD the LATHE:

To lift the machine all that is required is to pass the hook of the hoist or the sling through an eye-bolt fixed on the lathe.

Push the tailstock up to the end of its right-hand stroke, until it comes into contact with its lower stop; lock it securely by pushing the locking lever towards the headstock.

Balance the lifted machine with the saddle and clamp the latter by lifting the locking handle.

When the lathe is in place, unscrew the lifting eye-bolt and replace it by a special screw which is fixed to the base. Put the eye-bolt aside in view of possible future lifting.

- 2°) LOCATION of LATHE:

When selecting the location of the lathe the following factors must be taken into account:

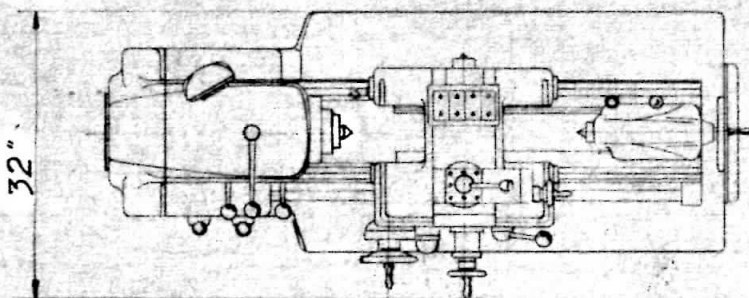
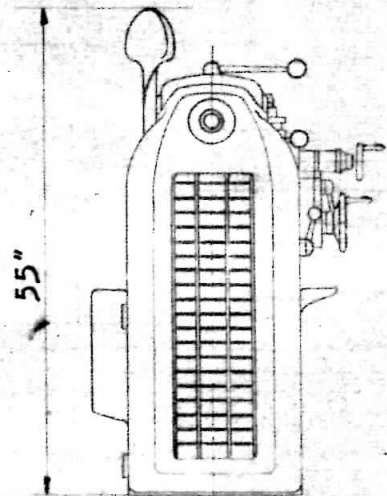
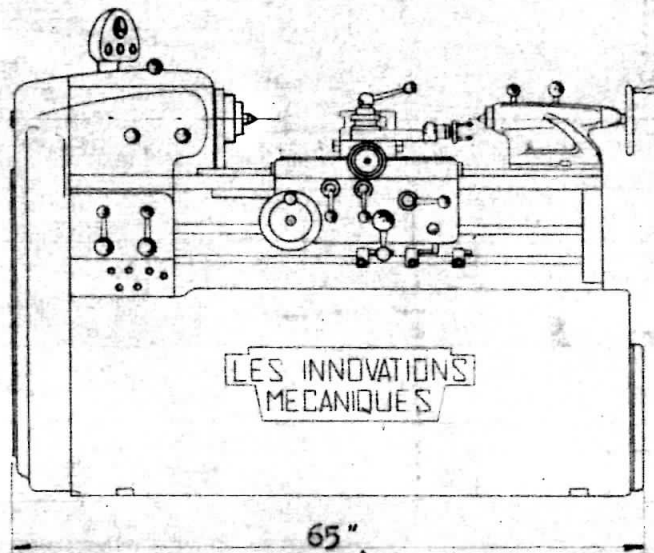
- a) space must be allowed for opening the left-hand guard forming a door;
- b) space must be allowed for opening the right-hand door;
- c) necessary clearance for removal of the lubricating oil tank;
- d) necessary clearance for removal of the coolant liquid tank;
- e) the rear of the machine must be easily accessible for removing cuttings (See Plan T.5. 011).

- 3°) SETTING UP the LATHE: -

Housings have been provided for engaging crow-bar under the integral-cast bed plate; two in front and two at the rear.

CAUTION! We especially draw the operator's attention to the fact that the left guard is very fragile and that it is dangerous to lift the machine from this side, either with crow-bars or with slings.

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PRODUCTION LATHE . TYPE . T5

Swing over bed	13 3/4"	Morse taper of spindle	N° 4
Swing over ways	12 1/4"	POWER	HP 4.5 $\frac{5}{8}$
Swing over cross slide	5 3/4"	Spindle speeds, number	9
		Spindle speeds, range..	180 to 2800
Distance between centers	20"	Feeds, number	9
Spindle size of hole	1"	Feeds, range	0,0015 to 0,024
		American standard spindle nose	Type A1 5 inch

**LES INNOVATIONS
MECANIKES**

T5 Bis 015

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- 4°) ANCHORING the LATHE:

See anchoring plan T5.011. We particularly recommend the type of anchoring shown on this drawing.

The bed-plate of type T5 LATHE cast in one piece, the exceptional rigidity of its bed, its small length, permit of avoiding foundations, except, however, in case of a location on loose soil.

- 5°) LEVELLING:

When the anchoring seals are completely dry, the lathe must be carefully levelled, by means of a precision level.

Longitudinally, place the level on the flat face of the ground ways of the tailstock.

Transversally, place the level on the tops of the two steel prismatic ways.

The tests, according to SALMON STANDARDS, which have been carried out when the machine was passed for acceptance in our Factory and which were recorded on the annexed inspection card, must give the same results when carried out on the lathe after it has been set up.

If not, reset the jack-screws.

The design of the type T5 LATHE jacks permits of accurate levelling, therefore of obtaining still better results than those ascertained by tests, on a non-anchored machine.

IN NO CASE WHATSOEVER MUST THE SETTINGS OF HEADSTOCK OR TAILSTOCK BE ALTERED.

- 6°) ELECTRICAL CONNECTIONS:

Connect the three mains wires to the terminal board placed at the bottom of the rear part of the bed-plate on the headstock side. This board is protected by a cover marked with an arrow. It is symmetrical, which permits of the opening being directed either upwards, or downwards, according to whether the feed cables are aerial or underground.

We recommend fitting a cut-out switch apart from the lathe to facilitate maintenance or adjustment of electrical apparatus.

- 7°) STARTING UP the LATHE:

The lathe having been carefully levelled, open the left door, dismount the suction pipe of the pump which is plunged in the oil tank.

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Dismount the oil return pipe and the oil-leak collector tube of the pump.

Remove the oil tank. Take off its cover and fill the tank with the special oil supplied with the machine. When all the compartments are full, check the oil level in the middle of the oil feed sight. Put back the cover on the tank and place the whole unit in its housing. Re-connect the pipes.

Place the starting lever which is on the top of the headstock in the "off" position, i.e., on the left.

Place the gear-shift levers on the positions giving the slowest speeds.

Start up the motor by means of the proper push-button. Put the spindle slightly into gear in order to ascertain if it is rotating in the right direction. If it is, the pump also rotates in the right direction.

BUT NEVER LET THE SPINDLE ROTATE WHEN DRY!

Check the delivery of the lubricating pump by means of the headstock feed-sight.

Put into gear and let the lathe run at a slow speed, for a few minutes, in order to ensure proper lubrication of all inside components.

The machine is then ready to operate.

- 8°) MAINTENANCE:

Nearly all the maintenance facilities of the lathe are placed under the left guard forming a door, viz. the adjustment of the tension of the motor driving belt, pump belt and feed belt, the headstock and feed box draining and the main motor lubrication.

- 9°) SPINDLE ADJUSTMENT:

See attached drawing T5.013.

-10°) BRAKE and CLUTCH ADJUSTMENT:

Remove the small fan window at the bottom of the rear part and to the right of the headstock. The left-hand part of the double clutch assembly acts as a brake and the right-hand part as a clutch properly so-called.

To adjust one or the other, rotate the primary shaft in order to bring the small locking plunger, stopped by a finger, in the axis of the window. Lift this small locking plunger and by means of one of the numerous holes drilled radially on the

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right/

on which the said plunger is placed, turn the said part by one division in the desired direction (operate very slowly until the plunger drops back into a hole).

Clutch and brake adjustments are made in exactly the same manner, but, of course, inversely.

It is usually necessary to make a first adjustment after the machine has been running for 100 hours in normal operation; a second adjustment after 300 to 400 hours; and thereafter it is sufficient to make this adjustment once every 12 to 18 months.

-11°) BELT TENSION:

Tension of the main motor belts can easily be adjusted, by sliding the motor base plate which is secured by means of 4 hexagon head screws.

The tension of the feed belt can easily be adjusted by means of a balancing sheave.

The tension of the pump belt is adjusted by swinging the whole pump assembly around a fixed point.

-12°) ADJUSTMENT of CROSS SLIDE STOPS:

In the slide rest there is a hole diametrically opposed to each of the small levers of the cross slide tops. When the stop is held against the previously pulled down lever, the locking screw is opposite the said hole.

-13°) ADJUSTMENT of GIBS:

The cross slide and the top slide are fitted with adjustable taper gibs.

For taking up possible play, and obtaining smoother or firmer running adjust the screws at the ends of each gib.

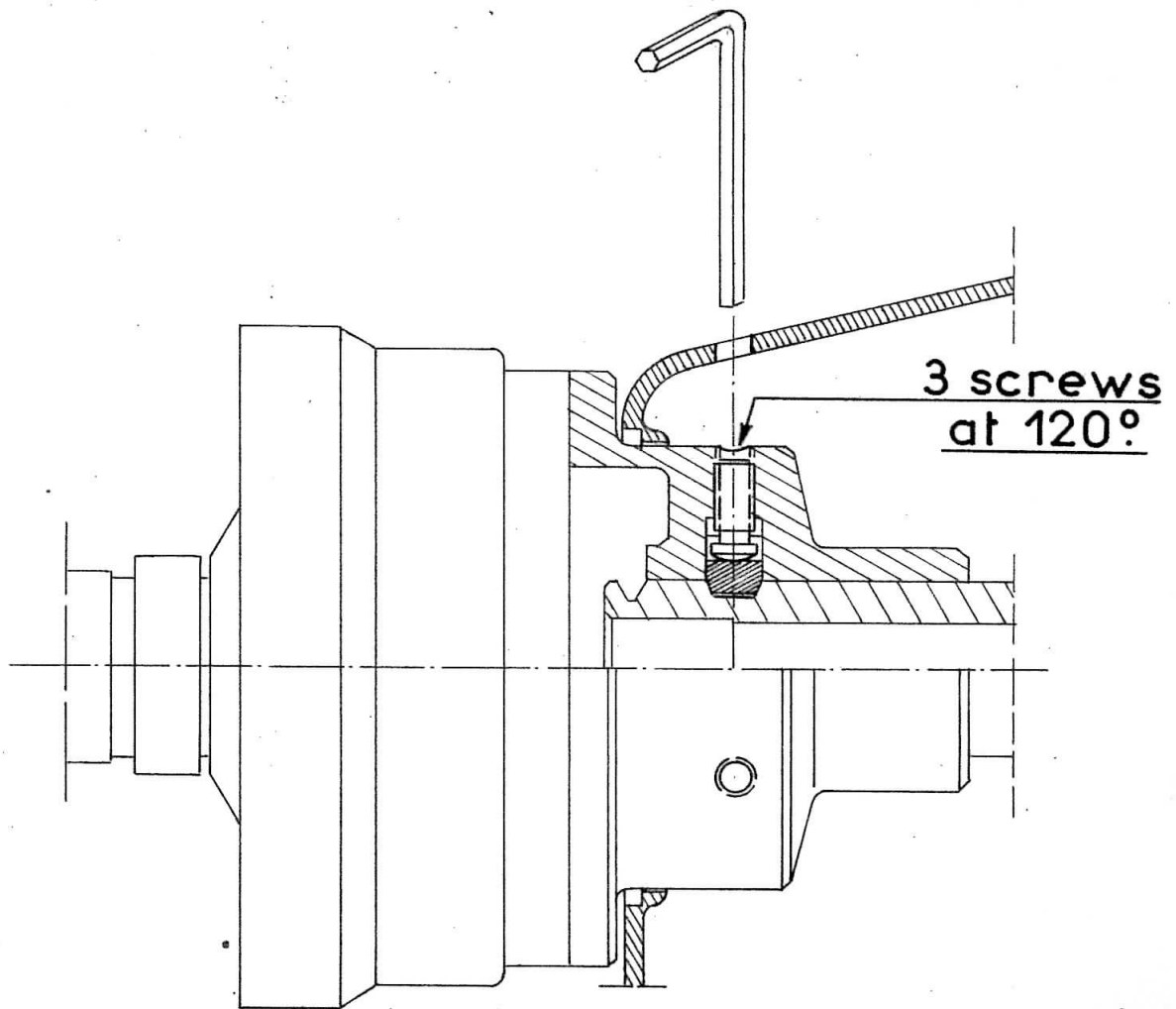
On each side, the apron bears a gib with a shoulder positively screwed on a shim. It is therefore sufficient to remove the screw, to remove the shim, to rectify its thickness as desired and to put it back into place.

-14°) COOLANT SYSTEM:

The Motor-Pump assembly and the coolant liquid tank are housed in the right part of the bed-plate.

In this connection, the particular characteristic of type T5 LATHE, is the special design of this tank. It is of large capacity and fitted with decantation baffles and a filter; it is entirely removable thanks to rollers and slides and can therefore be easily and thoroughly cleaned.

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TO REMOVE AIR CYLINDER, PROCEED AS FOLLOWS :

- 1 Release the chuck control rod (by removing screw in center of chuck).
- 2 Insert 5 mm Allen wrench in hole in top of door.
- 3 Unscrew the three screws spaced at 120° in cylinder mounting bracket as far as they will go, turning the spindle to bring them in register with hole.
- 4 Pull cylinder to release it (with its mounting bracket) from spindle.

**LES INNOVATIONS
MECANIQUES**

T 5.P.W. 01.11

DESCRIPTION ET FONCTIONNEMENT DES DIVERS ORGANES INCORPORES

DANS L'ADAPTATION D'UN MANDRIN A COMMANDE PNEUMATIQUE

A.- Levier d'embrayage.-

Le levier d'embrayage monté sur le tour est muni d'une poignée tournante pour la commande du mandrin.

Ce levier peut occuper deux positions :

- 1°- Position embrayée (levier tiré vers l'opérateur)
- 2°- Position frein (levier poussé)

Seule cette position permet la manoeuvre de la poignée tournante, donc SECURITE ABSOLUE PENDANT LE TRAVAIL.

Dans la position frein :

- a) - En tournant la poignée dans le sens des aiguilles d'une montre, desserrage des mors. Impossibilité d'embrayer. SECURITE ABSOLUE PENDANT LA MANOEUVRE.
- b) - En tournant la poignée dans le sens inverse, serrage des mors et possibilité d'embrayer.

B.- Inverseur du pneumatique.-

L'inverseur est incorporé en prévision de l'utilisation des deux cas de serrage des mors du mandrin. L'axe de l'inverseur, visible à l'avant du tour est muni de 2 plats positionnés horizontalement par une butée, et manoeuvrable en deux positions, au moyen d'une clé six pans.

- 1°- Serrage extérieur - flèches convergentes
 - 2°- Serrage intérieur - flèches divergentes
- (Les flèches se rapportant au mode de serrage des mors)

Suivre rigoureusement cette recommandation, afin d'éviter, au cas d'une rupture de courant durant le travail, le desserrage brusque des mors.

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To do this, open the right hand door of the bed-plate, loosen the union joint of the suction pipe of the pump, and swing said pipe towards the inside of the lathe. Then, pull out the tank on its guide rails.

-15%) LUBRICATION/

The single pulley headstock is lubricated at all points by a pump which operates as soon as the motor is started, even if the headstock does not rotate.

The apron and feed box are splash-lubricated.

For draining the oil out of the headstock, remove the oil tank placed in the left-hand part of the bed-plate. See instructions under 7) above). It is to be noted that the greater part of the oil can be drained off by letting the pump operate and by disconnecting the delivery pipe.

To drain the feed box, remove the plug from the end of the tube placed at the bottom and on the left of the feed box, when the door is open.

The feed box is filled through the opening at its top, plugged by a hexagon head screw. Check the level in the middle of the sight-feed indicator.

To drain off the oil from the apron, remove the plug under the apron. Fill it through the hole, on the top of the saddle, plugged by a hexagon head screw similar to that of the feed box and marked "HUILE" (oil). Check the level in the middle of the oil feed sight.

First drainings should be made after the first 500 hours running.

We recommend the following oils:

- HEADSTOCK: GARGOYLE D.T.E. OIL, LIGHT, made by the Vacuum Oil Company.
- APRON AND FEED BOX: GARGOYLE D.T.E. OIL, HEAVY MEDIUM, made by the Vacuum Oil Company.

In normal operation, drain off every 2000 hours.

Twice a day put a few drops of oil on the saddle and top slide ways using GARGOYLE VACTRA OIL N° 4, made by the same Company.

"GARGOYLE D.T.E. OIL, HEAVY MEDIUM" must be used for all other "LUB" lubricators, except those mentioned hereunder.

Once every three months, lubricate:

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1. - the cross-slide screw bearing at the rear of the saddle;
 2. - the rotation shaft of the feed belt tension roller.
- with good quality grease.

Once every six months, tighten by one or two turns the motor STAUFFER lubricators which have been reset on the sliding motor base plate.

-16°) USEFUL HINTS:

You now have a powerful, smooth-running, reliable and strong machine at your disposal. But, in order, to preserve its accuracy, a certain amount of care is required:

Thorough lubrication must of course be carefully ensured, as explained above.

Although the gear shift levers must be actuated when machine is stopped, the feed and reverse levers placed on the apron can safely be operated when the machine is running, except when the spindle is running at high speed.

The tool post can be placed in twelve different positions, 30° apart from one another. To operate it, loosen the lever by approximately one turn and a half, operate it: it is approximately positioned by a ball and adjusted to within 1/100° when the lever is re-locked.

NEVER TRY TO ADJUST ON INTERMEDIARY POSITIONS: THIS WOULD IMPAIR THE ACCURACY OF THE TOOL POST.

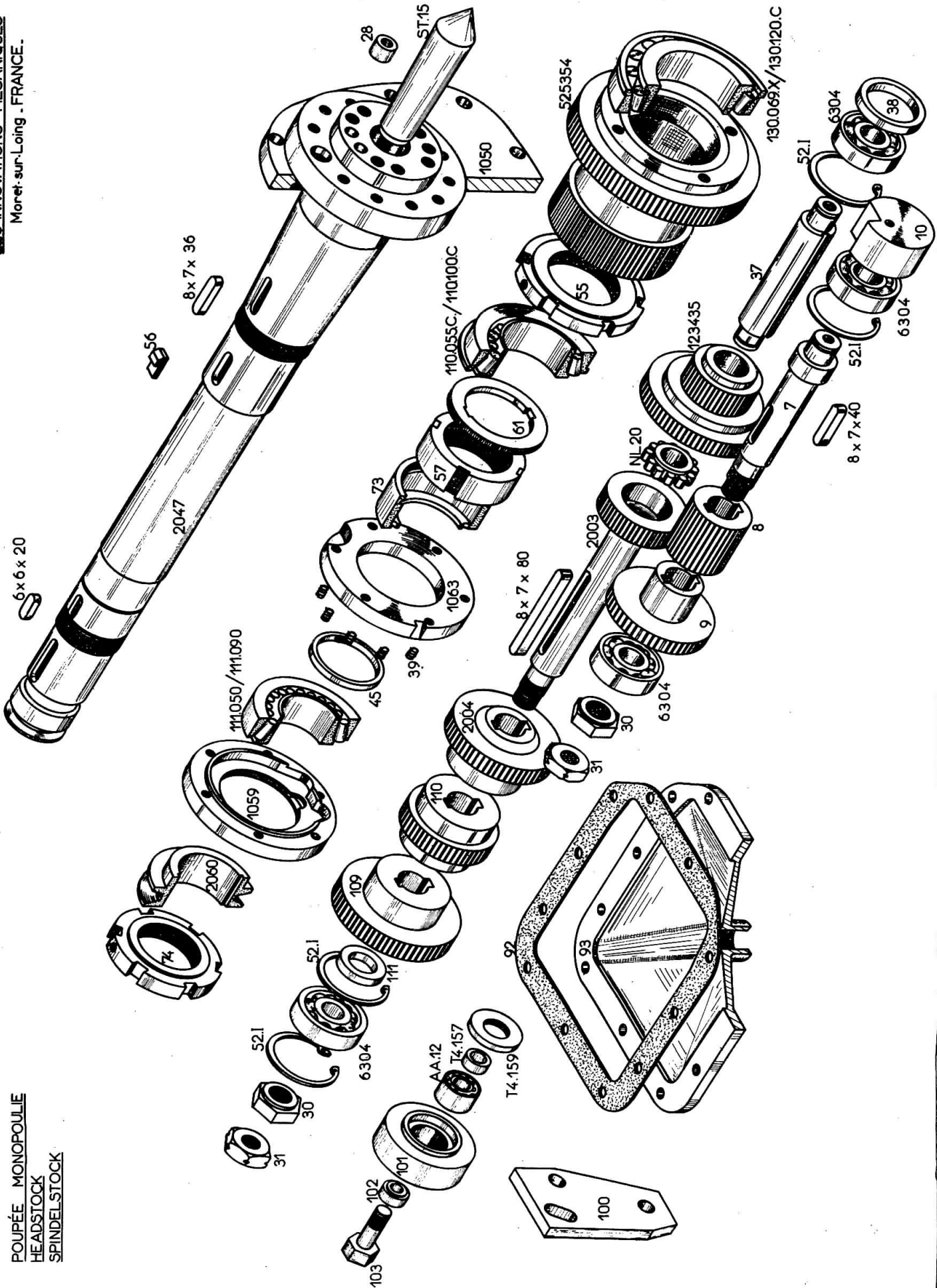
Type T5 LATHE is fitted with an ammeter which indicates at all times the power consumed for the work carried out. A red mark on this ammeter indicates the maximum power consumption permitted by the very reliable safety limits of the machine.

We have endeavored to supply you with a neat machine, easy to maintain. The exceptionally pure lines of Type T5 LATHE, greatly facilitate its maintenance.

Give it the minimum upkeep it requires.

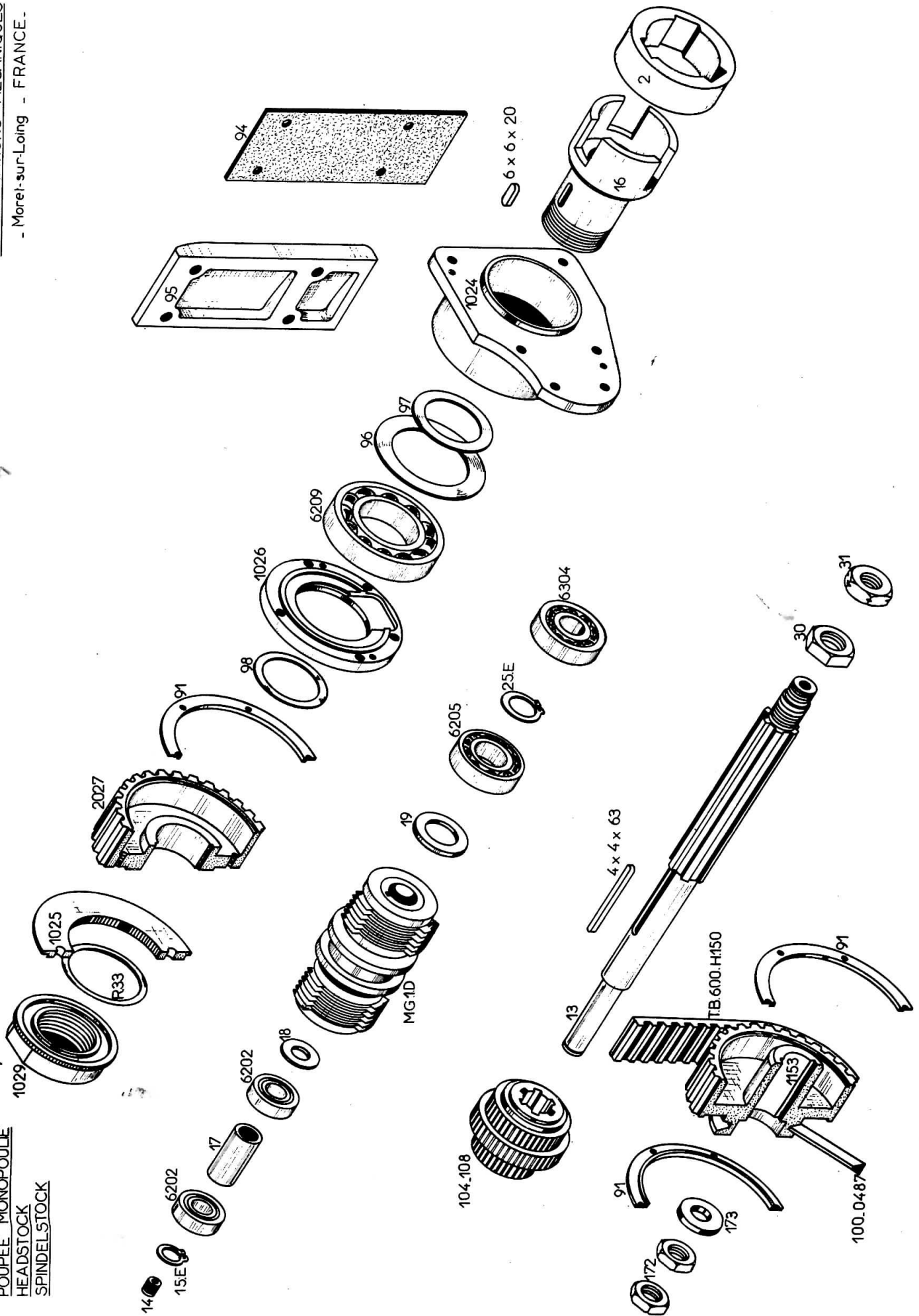
For any part or accessory, always specify the machine number which is stamped on the bed, on the right-hand, top part of the edge of the prismatic way.

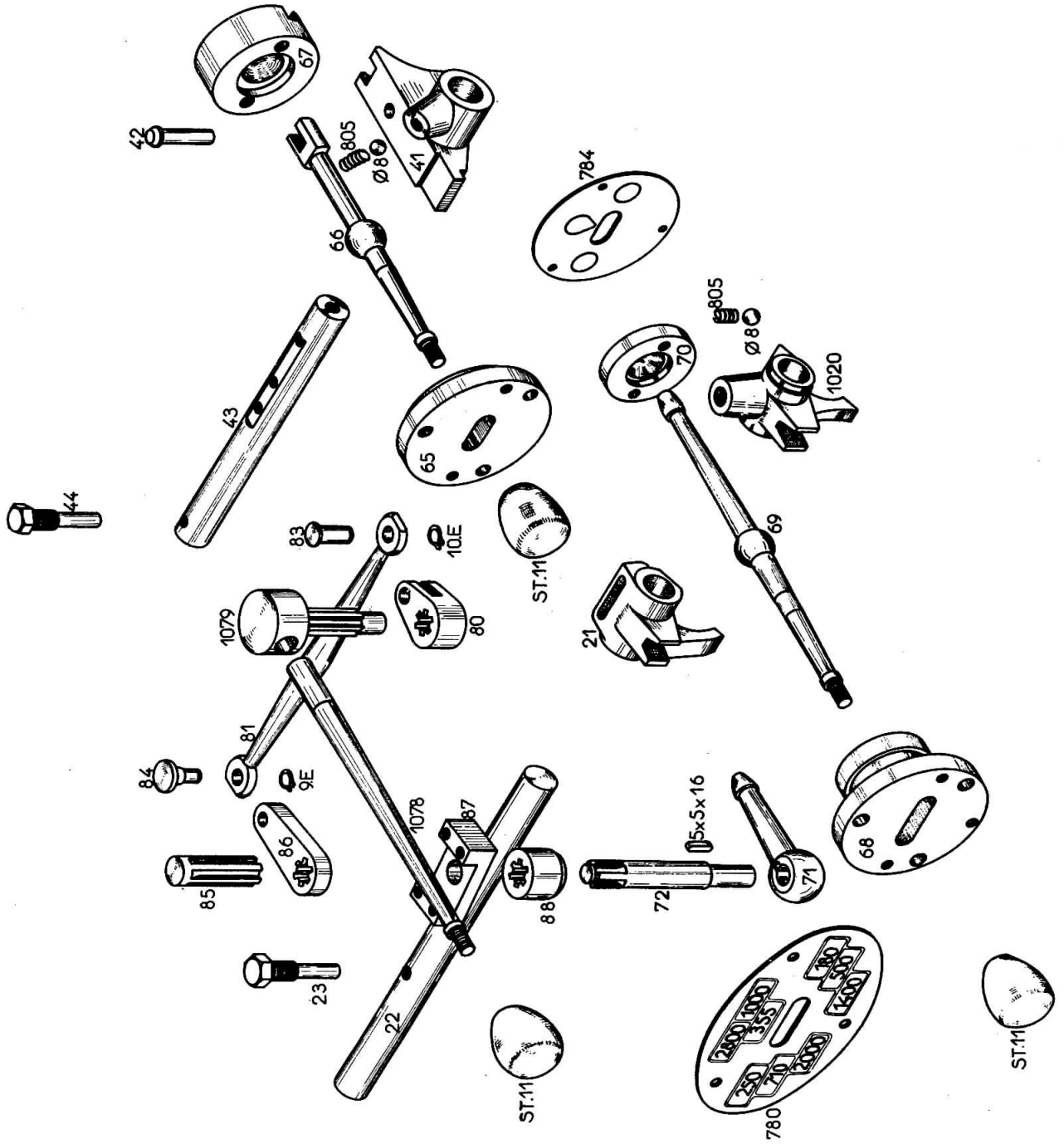
The number of the parts required can readily be found in the album of photographs of spare parts supplied with each machine.

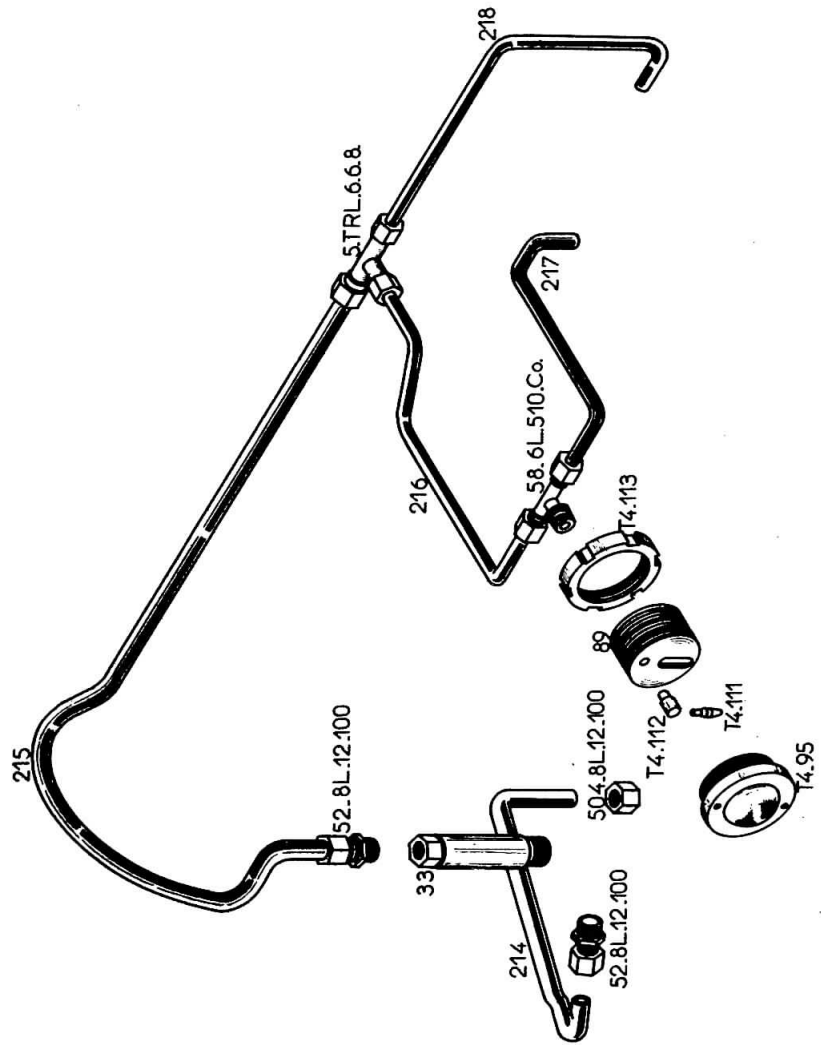


POUÉE MONOPOULE
HEADSTOCK
SPINDELSTOCK

POUPEE MONOPOULE
 HEADSTOCK
 SPINDELSTOCK

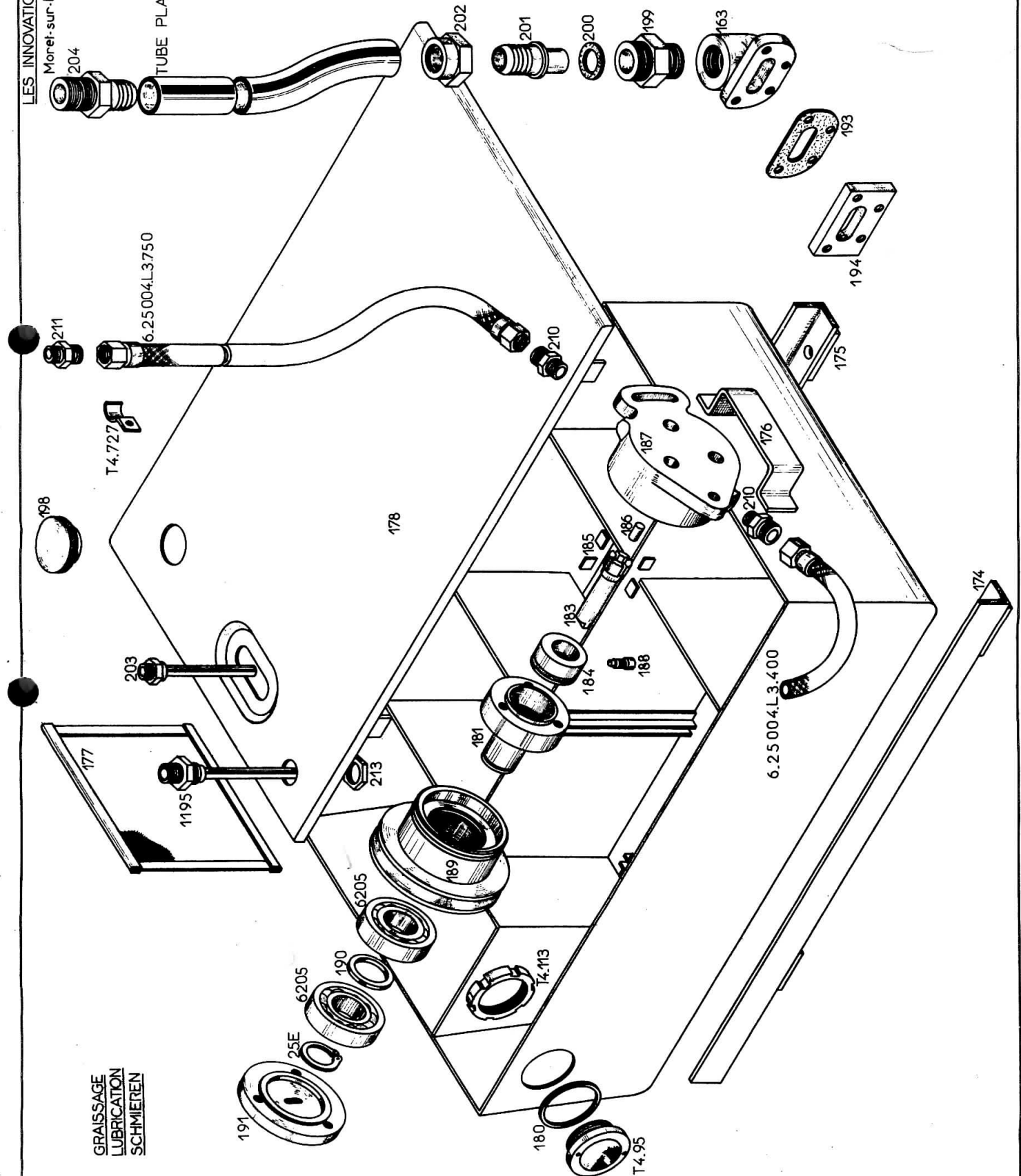




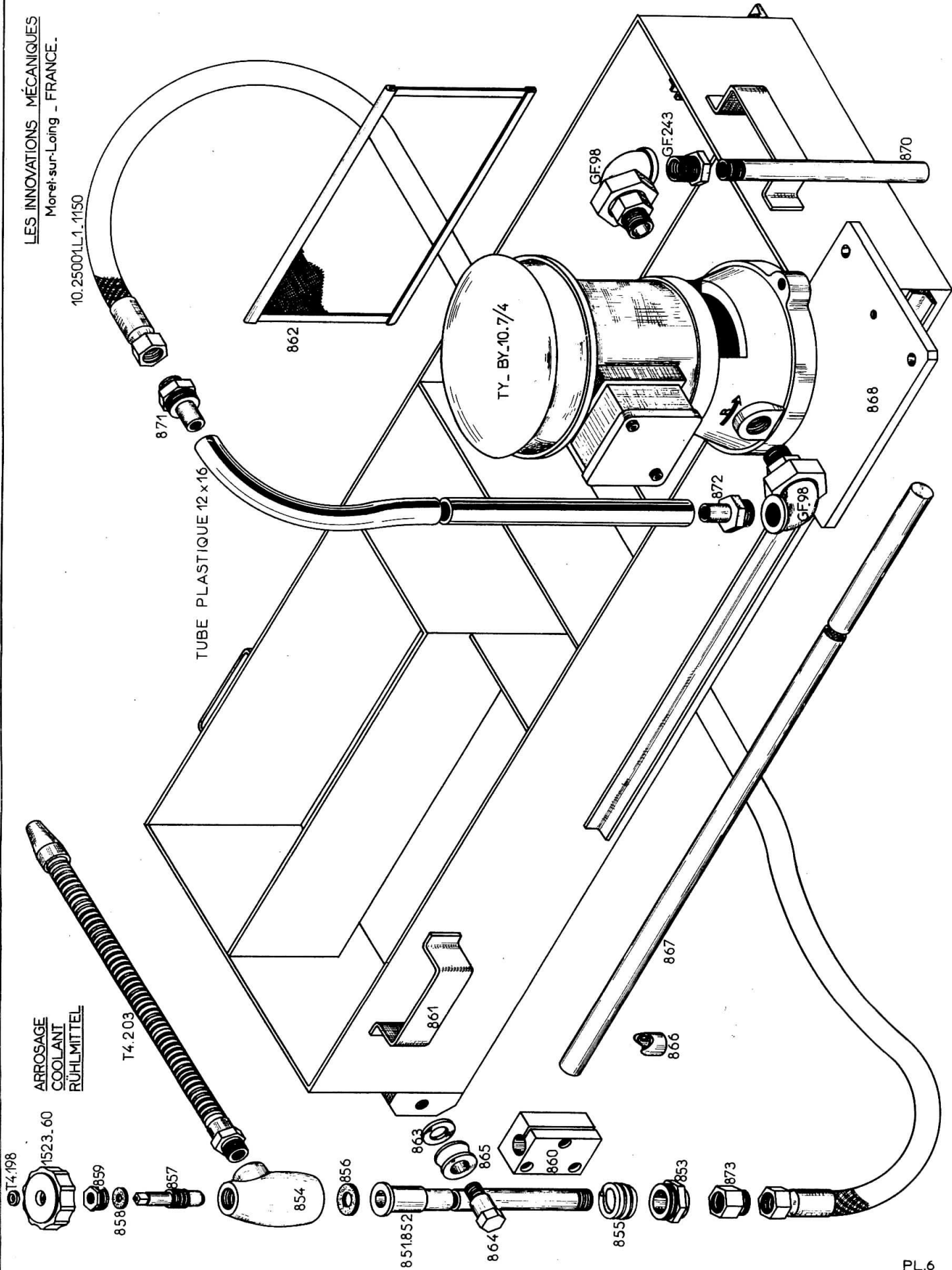


GRAISSAGE
LUBRICATION
SCHMIEREN

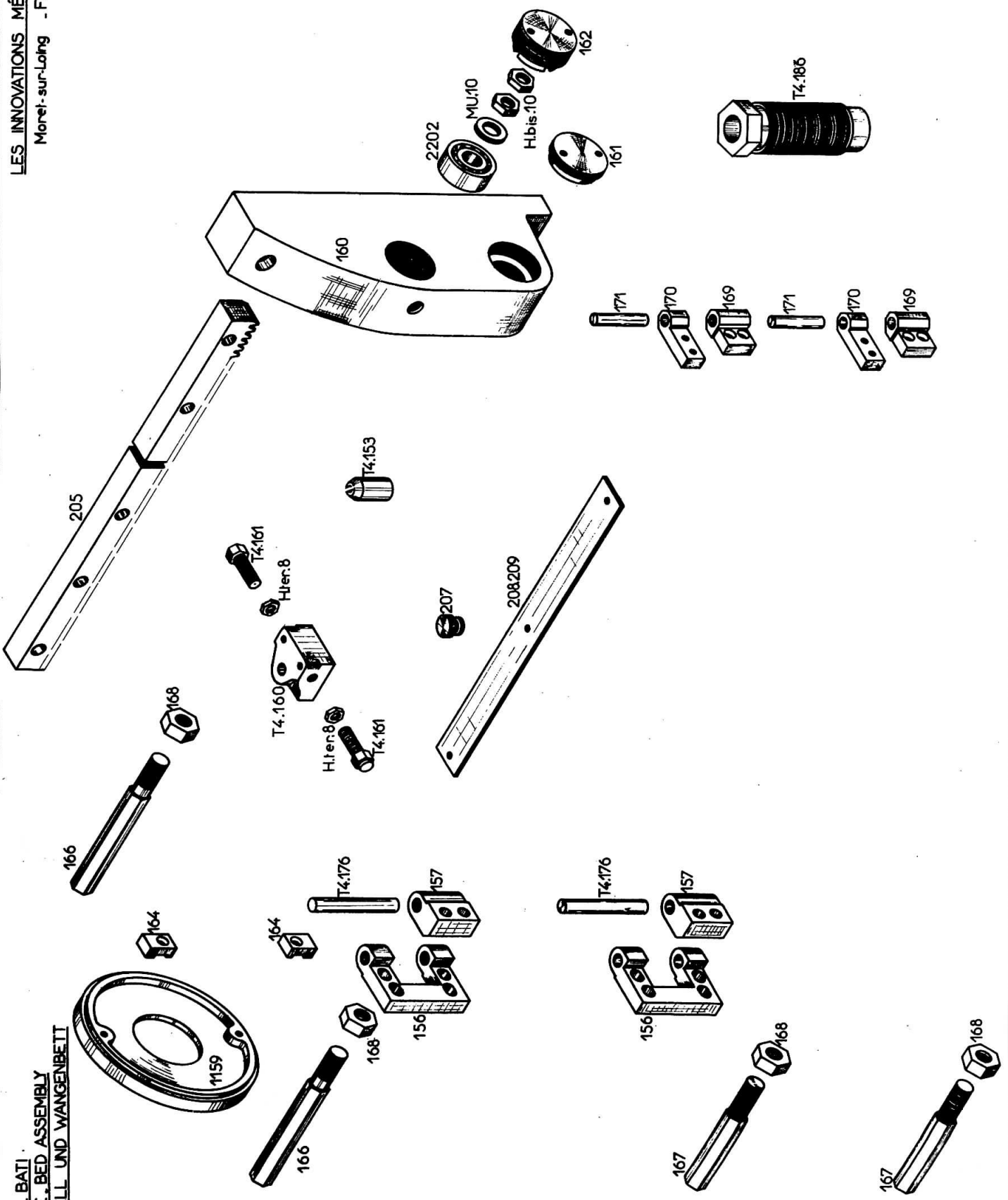
TUBE PLASTIQUE 20 x 25

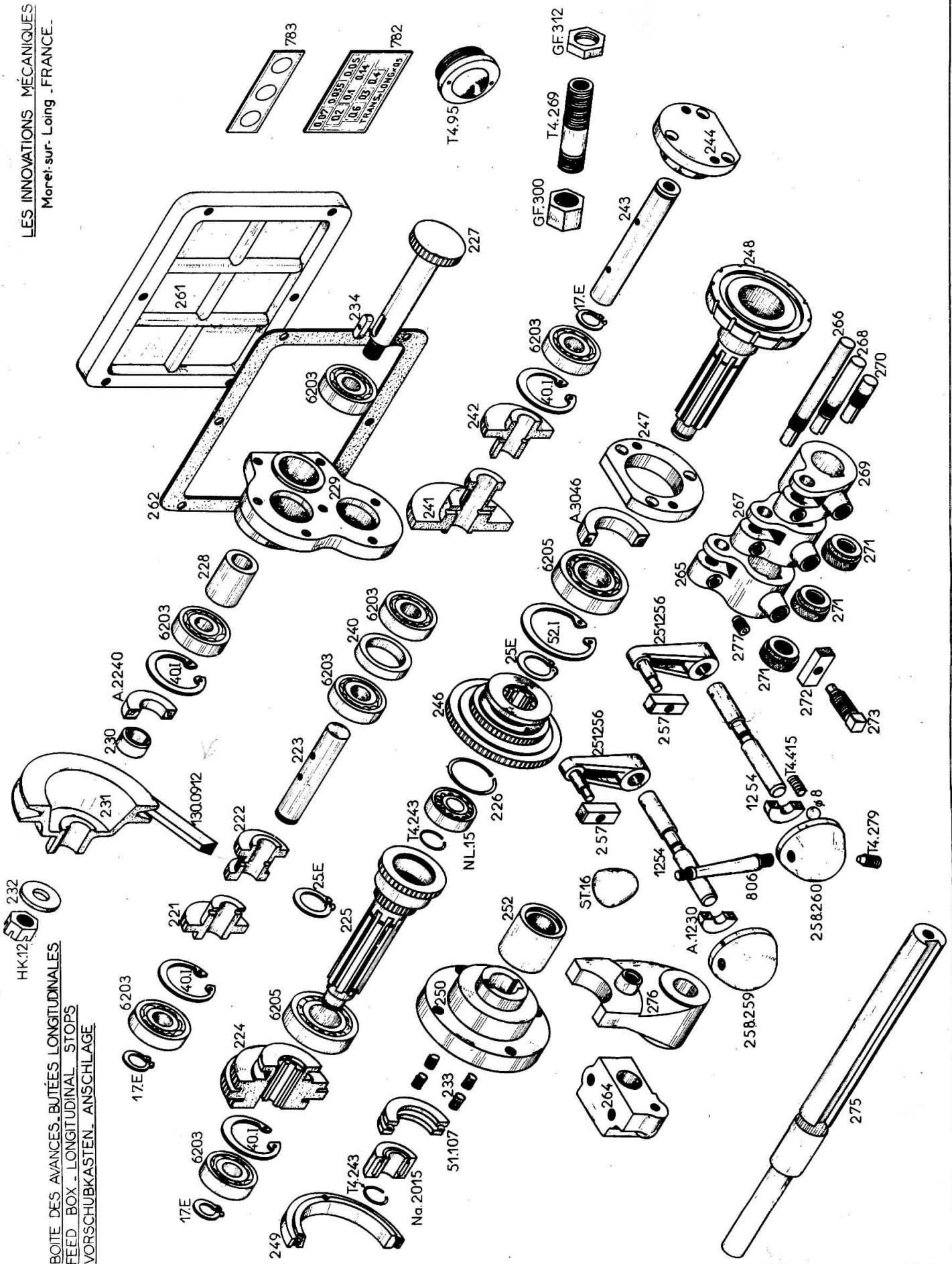


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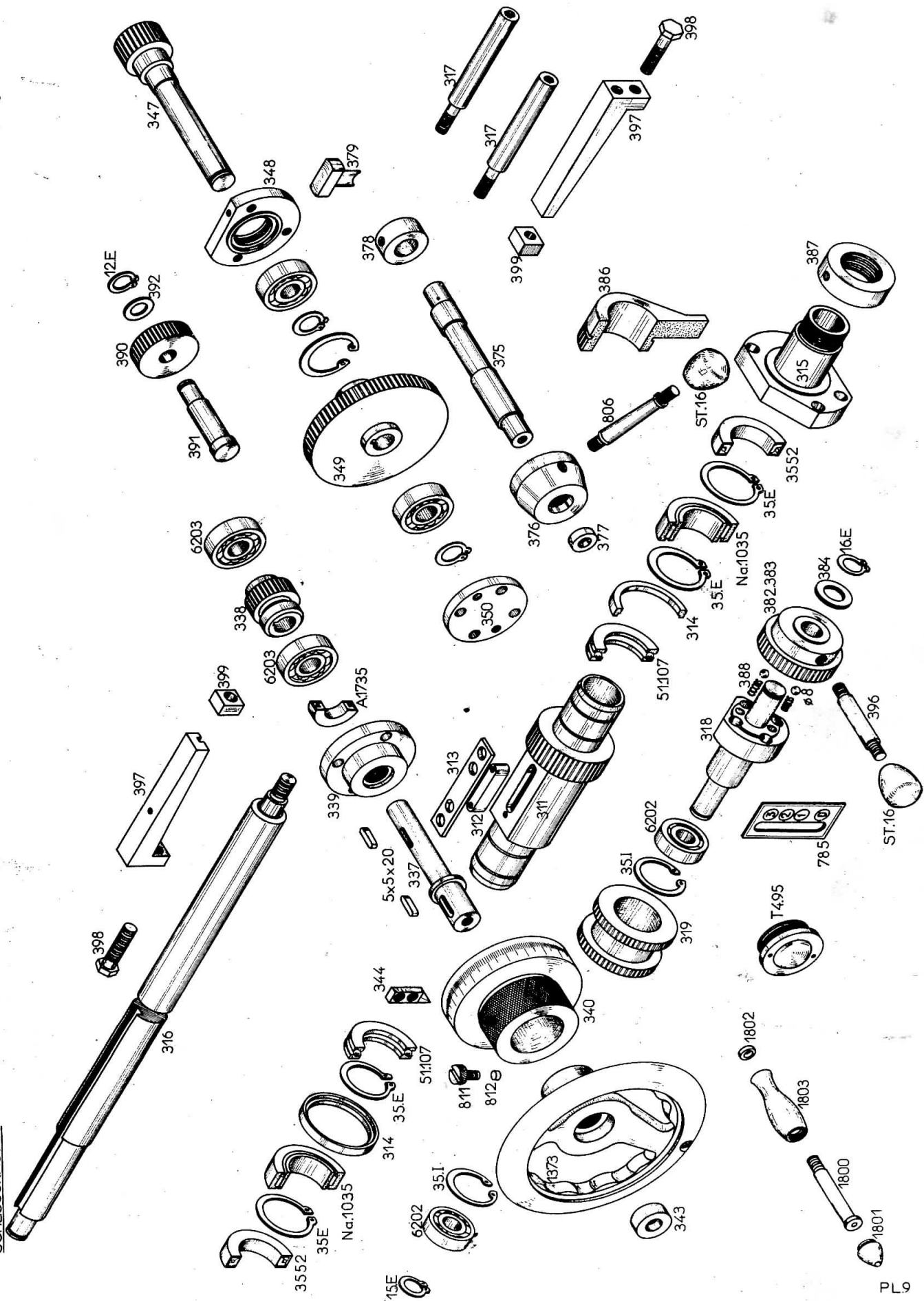


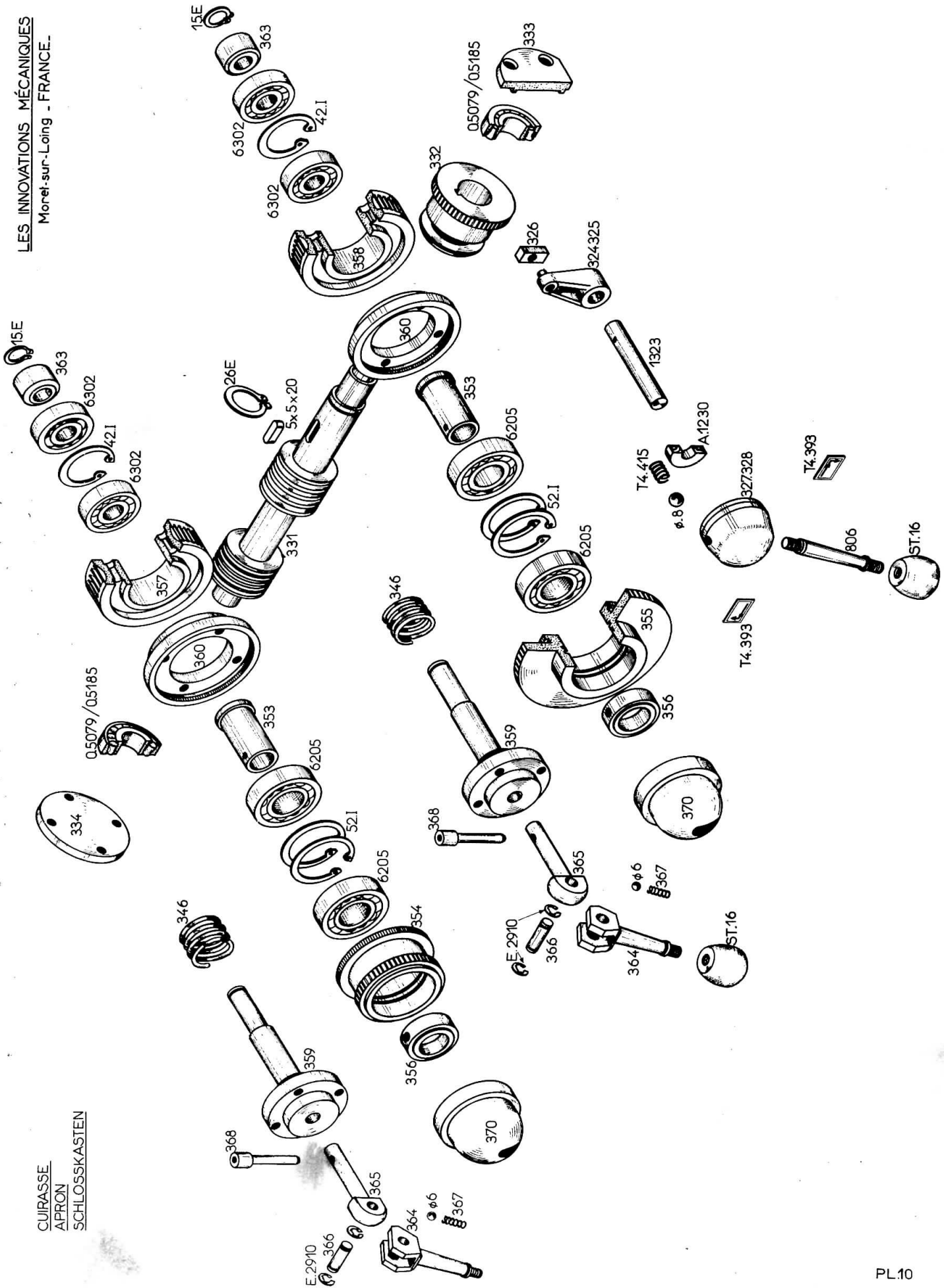
BANC. BATI
FRAME, BED ASSEMBLY
GESTELL UND WANGENBETT





BOITE DES AVANCES - BUTÉES LONGITUDINALES
FEED BOX - LONGITUDINAL STOPS
VORSCHUBKASTEN - ANSCHLAGE

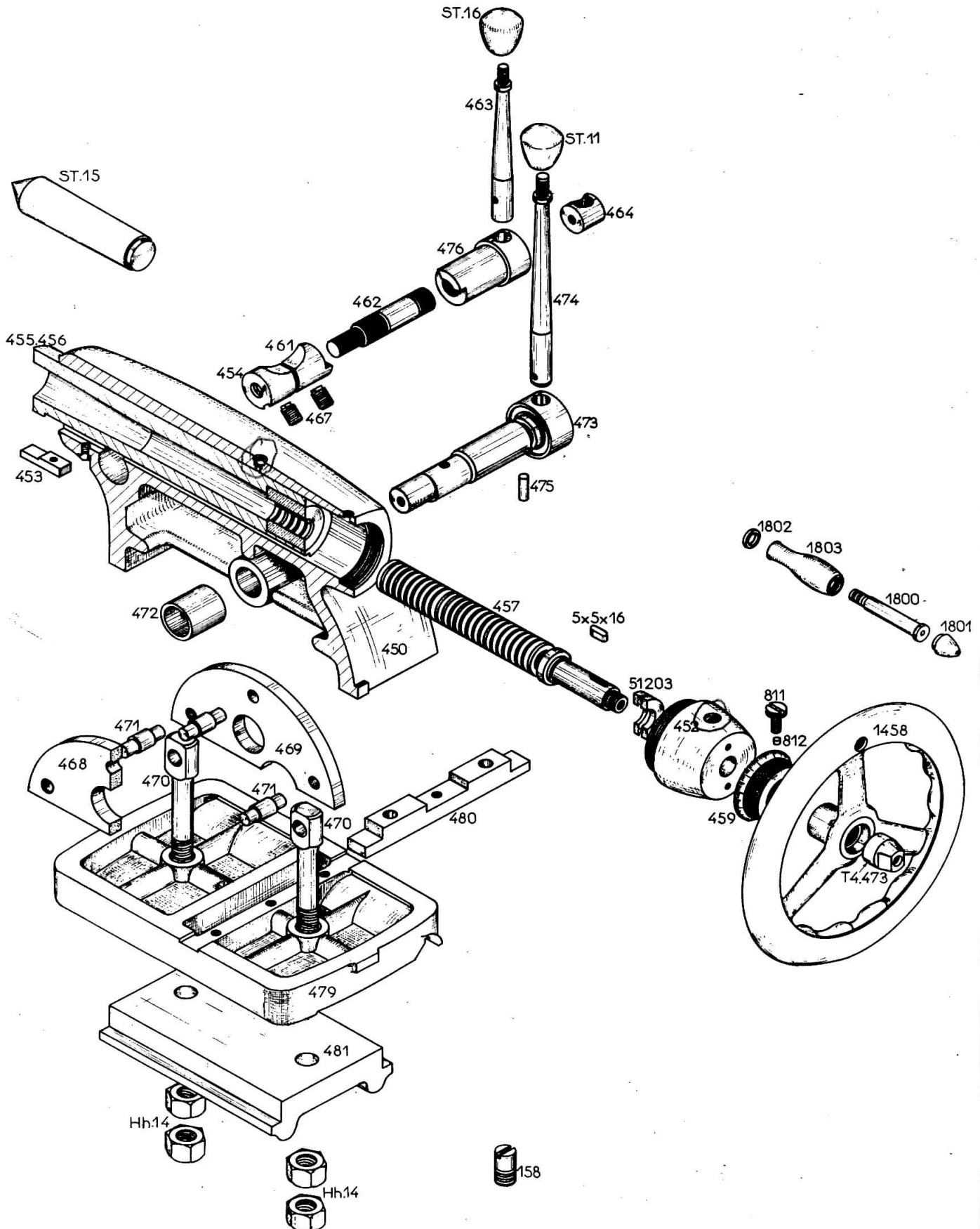


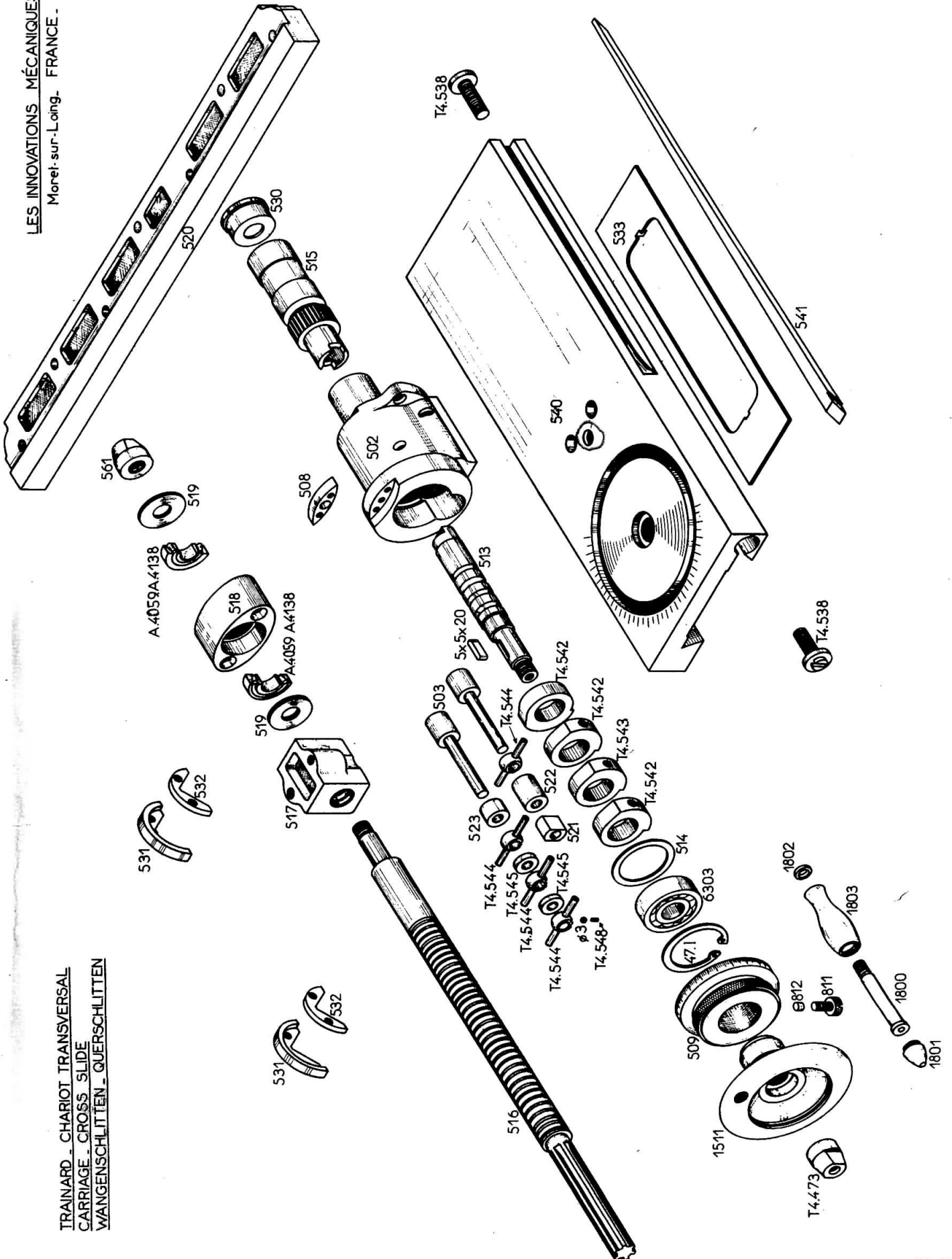


CUIRASSE
APRON
SCHLOSSKASTEN

CONTREPOINTE
TAILSTOCK
REITSTOCK

LES INNOVATIONS MÉCANIQUES
Moret-sur-Loing, FRANCE.

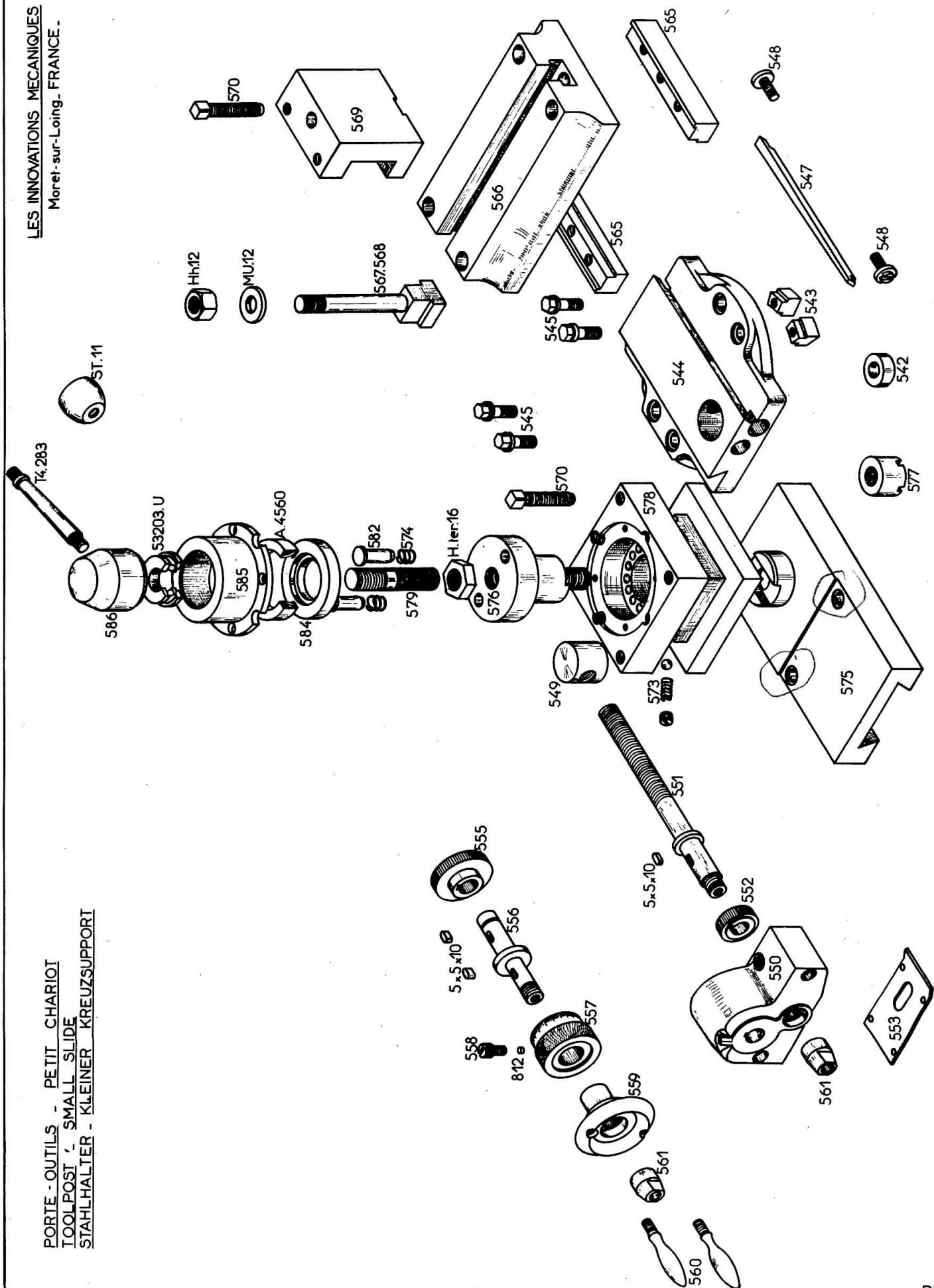




TRAINARD - CHARIOT TRANSVERSAL
CARRIAGE - CROSS SLIDE
WANGENSCHLITTEN - QUERSCHLITTEN

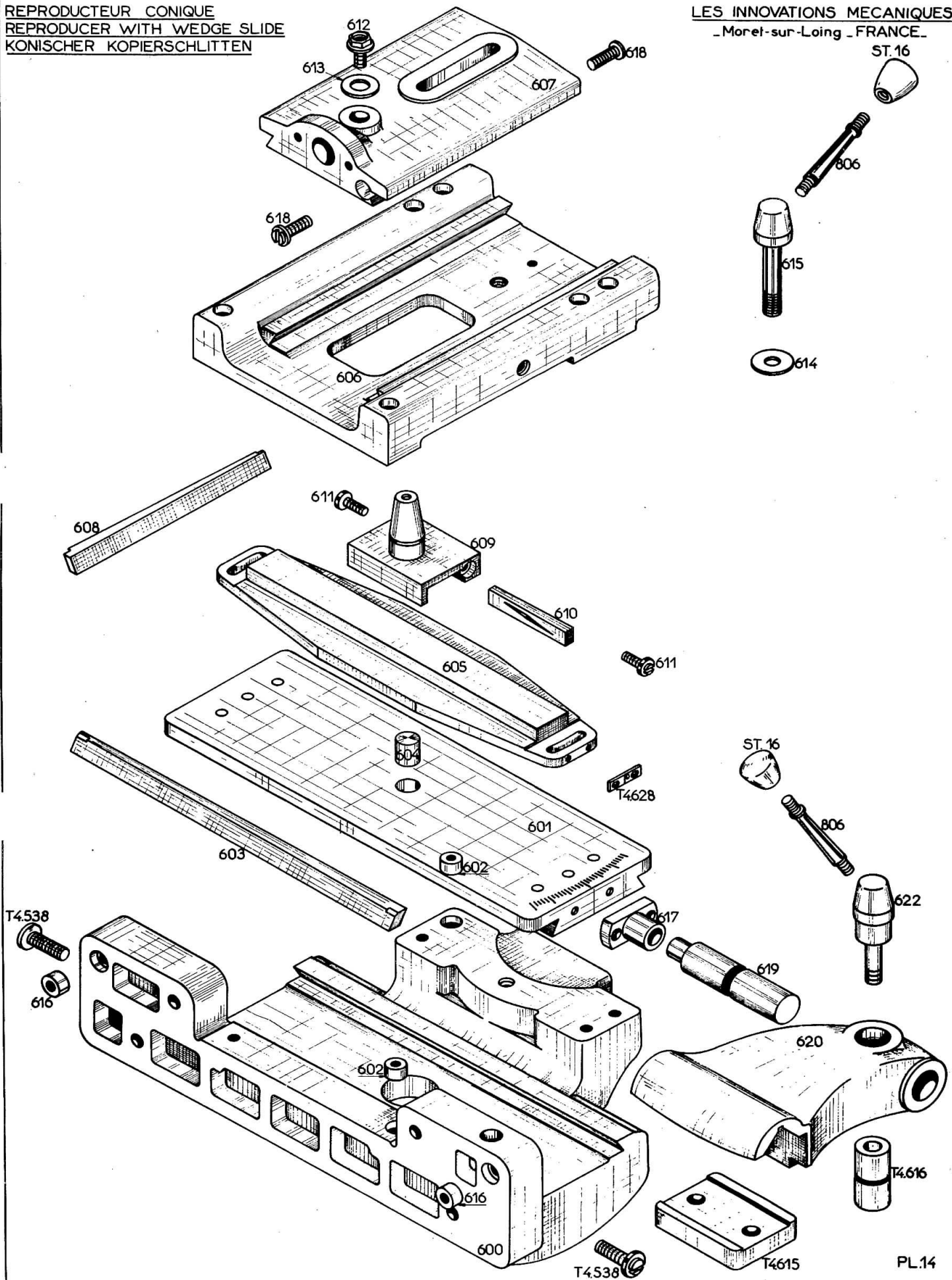
LES INNOVATIONS MECANIKES
 Moret-sur-Loing, FRANCE.

PORTE - OUTILS - PETIT CHARIOT
TOOLPOST - SMALL SLIDE
STAHLHALTER - KLEINER KREUZSUPPORT

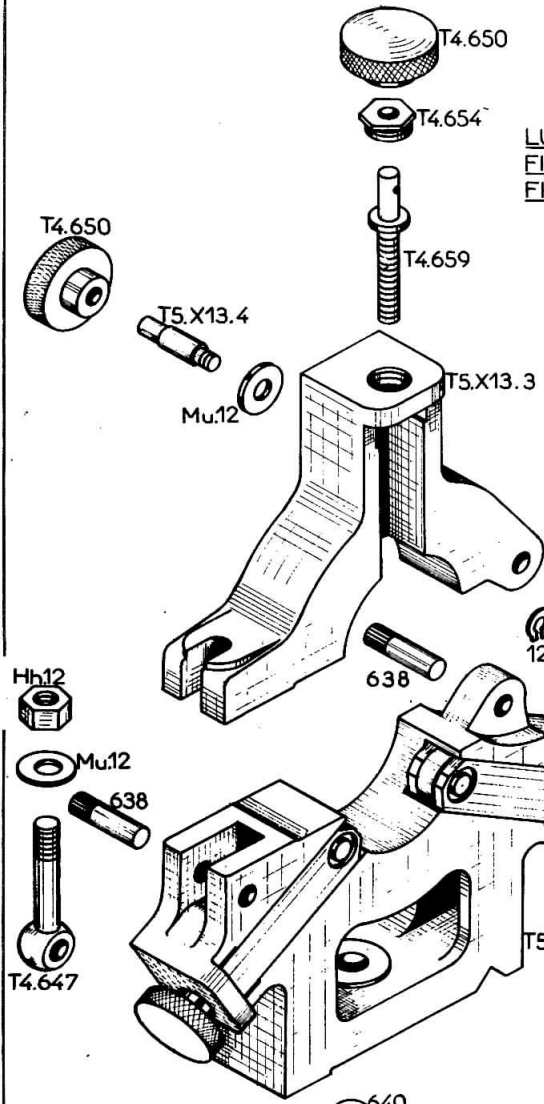


REPRODUCTEUR CONIQUE
REPRODUCER WITH WEDGE SLIDE
KONISCHER KOPIERSCHLITTEN

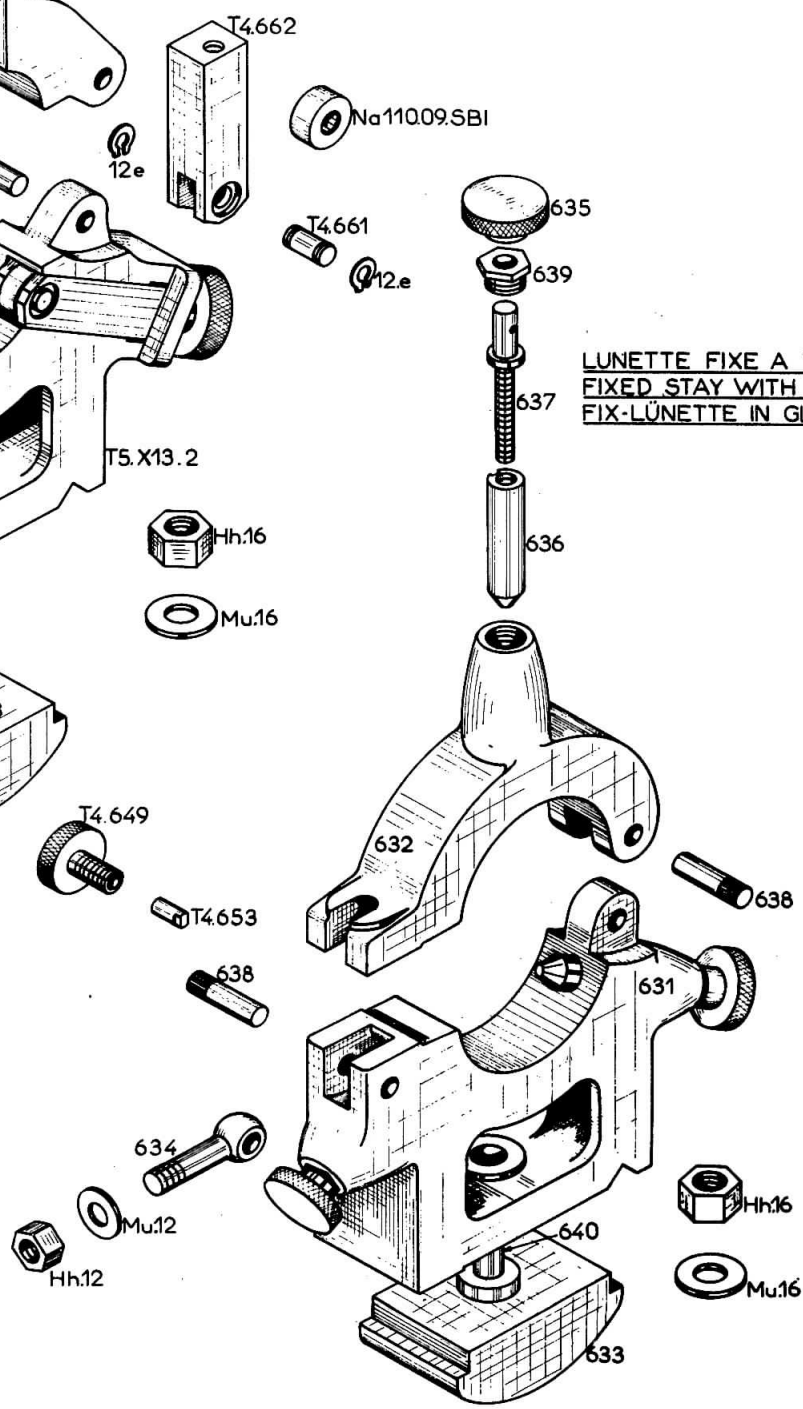
LES INNOVATIONS MECANQUES
_ Moret-sur-Loing _ FRANCE _



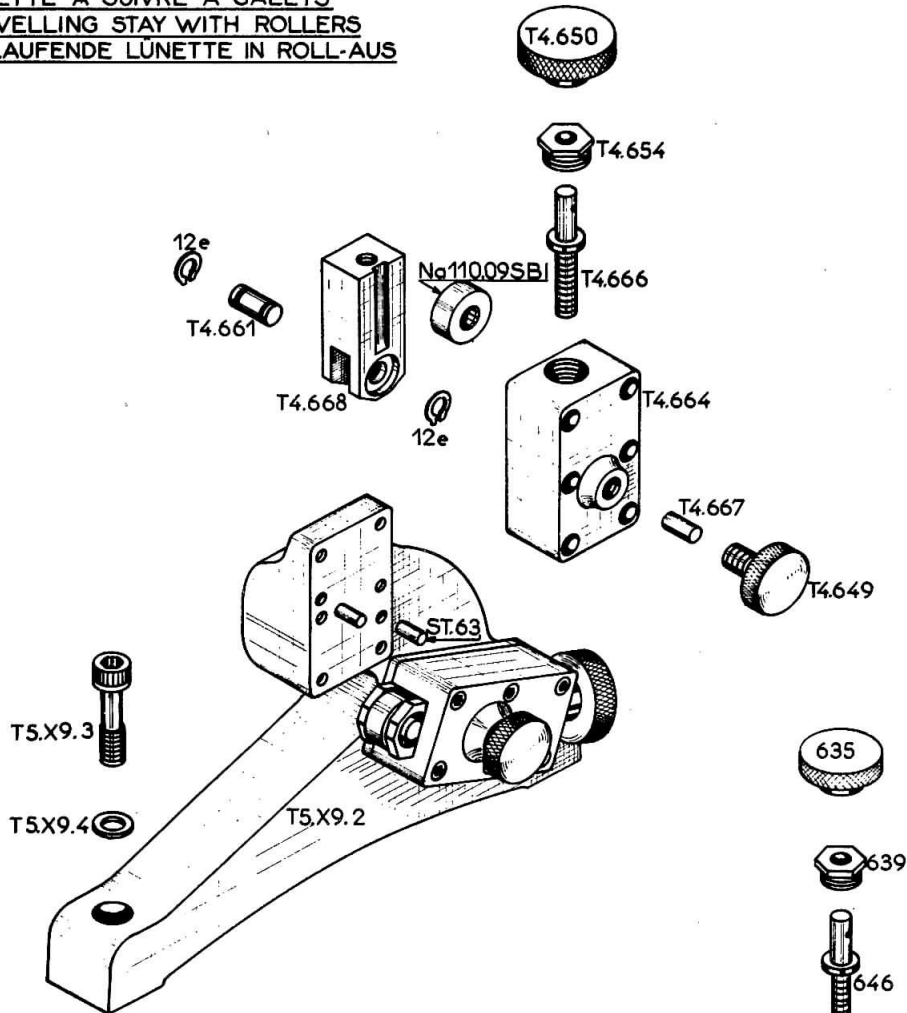
LUNETTE FIXE A GALETS
FIXED STAY WITH ROLLERS
FIX-LUNETTE IN ROLL-AUSFÜHRUNG



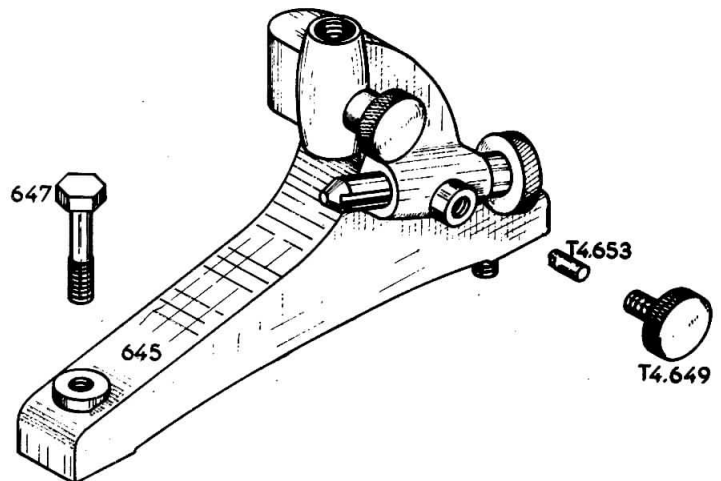
LUNETTE FIXE A TOUCHES
FIXED STAY WITH FINGERS
FIX-LUNETTE IN GLEIT-AUSFÜHRUNG



LUNETTE A SUIVRE A GALETS
TRAVELLING STAY WITH ROLLERS
MITLAUFENDE LUNETTE IN ROLL-AUS



LUNETTE A SUIVRE A TOUCHES
TRAVELLING STAY WITH FINGERS
MITLAUFENDE LUNETTE IN GLEIT-AUS



MACHINES - OUTILS

R. C. MONTEREAU 55 B 73
BOITE POSTALE N° 17
COMPTE CHÈQUES POSTAUX
P A R I S 1984.23



MORET - SUR - LOING
(SEINE - ET - MARNE)
FRANCE
TÉL. : FONTAINEBLEAU 54-72

SOCIÉTÉ ANONYME AU CAPITAL DE 81.600.000 FRANCS

Recommandation de lubrifiants pour les TOURS A CHARIOTER "SIM"

Type : T. 5

Pour un graissage méthodique de nos tours, les "Instructions de Graissage", jointes à chaque manuel de service servent de règle. Si vous voulez atteindre le maximum de rendement et de vie de nos machines de haute qualité, il est très important de faire le choix des lubrifiants selon le tableau ci-dessous.

Organes	Mode de graissage	Lubrifiants MOTUL
Poupée fixe	Circulation (carter 20 l.) Vidanges toutes les 2.000 heures	SAF DRIVE A
Boîtes des avances	Barbotage (carter 2 l.) Vidanges toutes les 2.000 heures	SAF DRIVE C
Cuirasse	Circulation (carter 1 l.) Vidanges toutes les 2.000 heures	SAF DRIVE C
Trainard Glissières	Pompe à main	SAFCO GEAR 18 P
Lubrifiant de coupe	Réservoir (Capacité 60 l.)	Soluble ou } suivant travail non soluble }

Les lubrifiants mentionnés ci-dessus sont des produits MOTUL. Les Ingénieurs de cette Société sont toujours à la disposition des clients pour les conseiller, à titre gracieux, sur toutes les questions concernant un graissage efficace des machines-outils.

Pour la fourniture de ces lubrifiants, veuillez vous adresser à la



SUPRA-PENN
SOCIÉTÉ ANONYME
HUILES MOTUL

Département Industrie

47, Rue de Paris - **BOBIGNY** (Seine)

Tél. : VIL 97-88 (lignes groupées) - Poste : 34