eumig

607

MARK 610D

MARK 610D Lux

REPARATURANLEITUNG
REPAIR MANUAL
MODE DE RÉPARATION

607

MARK 610 D
MARK 610 DLux

Position of spare parts as per Spare Parts Catalogue

Occasionally, it may occur that the colours of the wires mentioned in the repair manual do not correspond with the actual colours of the wires mounted in the projector.

"EUMIG" Elektrizitäts- und Metallwarenindustrie Technical Service

February, 1974

SPARE PARTS which may be sent in for repair :

Claw mechanism	732 1300
Motor A	732 1910
Motor B	732 1912
Motor C	732 1914
Projection lens 1.3/15-30	612 1683
Projection lens 1.2/12.5-25 (610 D Lux)	612 1710

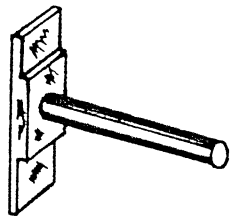
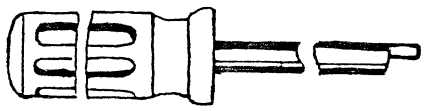
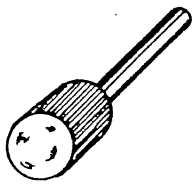
We kindly ask you to return only the spare parts mentioned above for repair.

Return shipments of the above spare parts for repair must absolutely be made in the packing boxes designed for this purpose.

CONTENTS

§ 1 TECHNICAL DATA

Film formats :	Super 8 - Single 8 - Standard 8 Capacity of 120 m (400 ft.) acetate film spools (comparatively more for polyester film)
Change of format :	By shifting the lever - Luminous visualization of the format : BLUE for Super 8 and Single 8 and YELLOW for Standard 8
Optical outfit :	VARIO-EUPRONET zoom lens 1.3/15-30 mm (7 elements) SUPRAGON-ZOOM lens 1.2/12.5-25 mm (610 D Lux) (10 elements)
Focusing :	Fine adjustment of the focus through knurled knob
Lighting system :	12 V/100 W halogen lamp with built-in dichroic mirror, pre-heating position
Loading lamp :	12 V/3 W operative on loading and rewinding
Drive system :	Via belt and asynchronous motor
Control :	By main switch and slow motion knob
Positions of the main switch :	Stop, loading, forward motion with light, forward motion with light and start contact for cartridge recorder, reverse motion with light, fast rewinding through the film gate (or external rewinding)
Positions of the slow motion knob :	0 / 18 / 12 / 9 / 6 / 3 / 0 f.p.s. without flicker GREEN luminous indication of functioning at 18 f.p.s., possibility of switching over to the various slow motion positions with running projector, slow motion possible in reverse projection
Contact for recorder :	Plug for simultaneous start and stop of projector and recorder
Film loading :	Fully automatic up to the core of the take-up spool
Frame line adjustment :	By shifting the lever
Film cutter :	Built in the projector

WERKZEUGE – TOOLS – OUTILS			§	PREIS PRICE PRIX öS/AS/SA
	704 / W1	Greiferlehre gauge gabarit	15	24,--
	711 / W6	Exzenterschlüssel 4 mm eccentric key 4 mm clef excentrique 4 mm	11 15 17 23	18,--
	732 / W1	Einstellehre Adjusting gauge Outil de reglage	16	10,--
	732 / W2	Spezialschraubenzieher special screwdriver clé de serrage	16	26,--

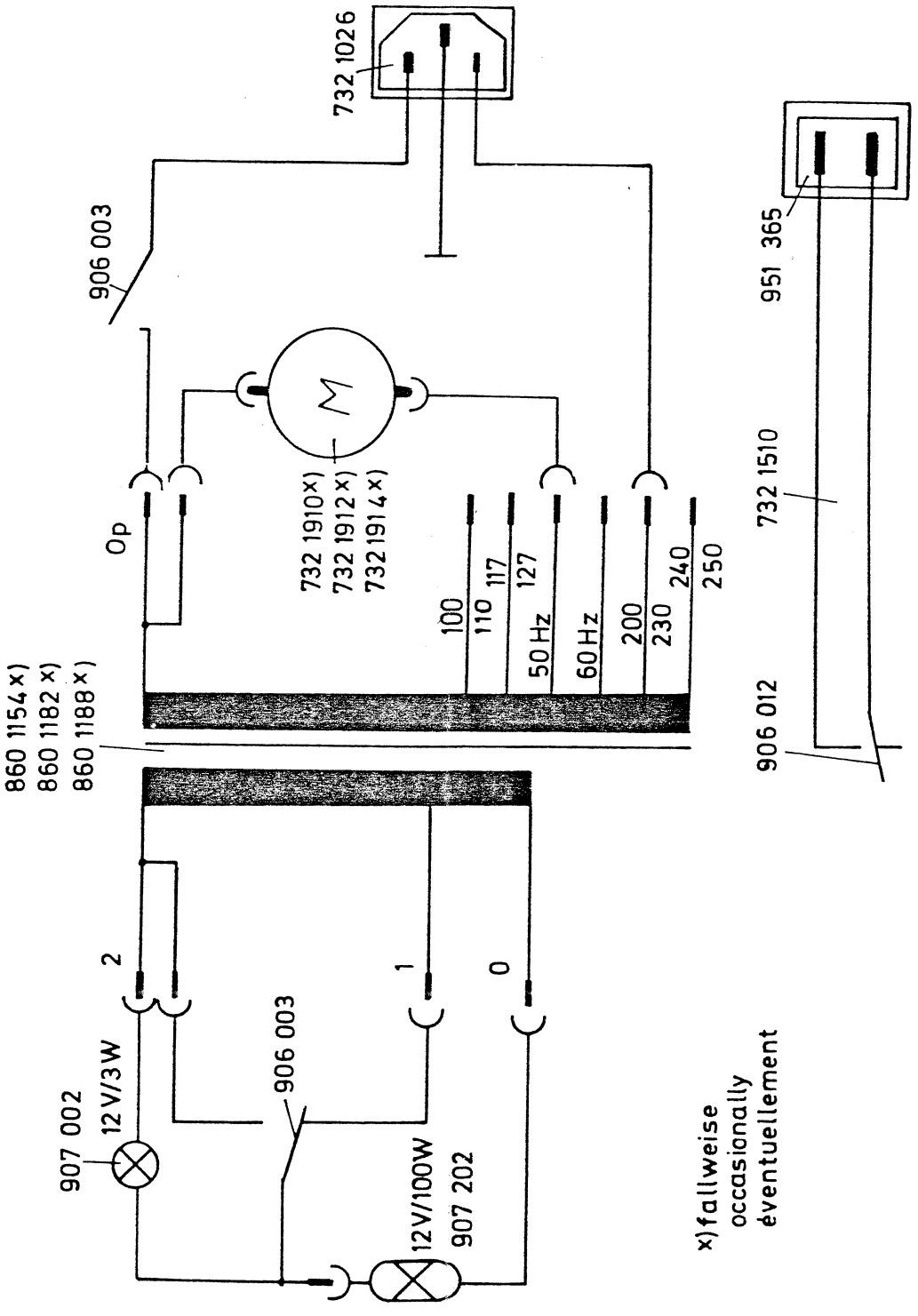
§ 3 LIST OF DEFECTS

Fault	Probable cause	Remedy
Motor does not work	Motor interrupted	Replace motor as per § 6
	Transformer interrupted	Replace transformer as per § 5
	Microswitch wrongly positioned	Adjust microswitch as per § 11
Motor runs continuously	Microswitch wrongly positioned	Adjust microswitch as per § 11
Motor runs, claw mechanism does not operate	Drive belt either fallen off or faulty	Position or replace the belt
	Drive pulley faulty	Replace pulley as per § 7
	Coupling spring broken	Replace coupling pulley as per § 7
Film does not thread in	Film cut inadequately	Cut the film correctly with film cutter
	Threading guide disaligned	Swivel threading guide to the left until it overtops the edge of film gate
	Spacer overtops the pressure plate not enough or too much	Adjust spacer as per § 19
	The claw penetration is not correct	Adjust claw penetration as per § 15
	Format change lever is not correctly positioned	Adjust the lever according to the corresponding film format
	Claw is not centered in the perforation	Adjust the film gate as per § 20
	Lateral pressure spring unhooked	Hook the spring
	Claw tip broken	Replace the claw as per § 18
Film is not being transported	Leader bent, jams in film channel	Replace leader, appr. 90 cm (3 ft.)

Fault	Probable cause	Remedy
Unsteady picture at 18 f.p.s. in forward projection	Friction of the take-up spindle too high Slider jams in film gate The claw penetration is too high Slow motion lever does not engage correctly Debiting tension in reel arm too high Pressure plate out of alignment	Adjust the friction of the take-up spindle as per § 8 Adjust slider as per § 22 Adjust the claw as per § 15 Adjust lever as per § 17 Adjust the debiting tension as per § 13 Adjust lens holder as per § 19 Replace pressure plate § 21
Unsteady picture at 18 f.p.s. in reverse projection	Friction of the take-up spindle too high	Check the friction of the take-up spindle as per § 13
Unsteady picture at 3 / 6 / 9 / 12 f.p.s	Claw does not uplift correctly Contact of the cam insufficient	Adjust slow motion lever as per § 17 Adjust the cam as per § 16
Film does not wind in forward projection	Friction of the take-up spindle too weak Chain has fallen off	Adjust the friction of the take-up spindle as per § 8 Fit the chain, or shorten it if necessary
Film does not wind in reverse projection	Reverse friction too weak	Adjust the friction as per § 12
Frame line cannot be adjusted	Film gate or lens holder out of alignment	Adjust the film gate as per § 20 Adjust lens holder as per § 19
Lamp does not switch on	Lamp is faulty Microswitch is not correctly adjusted	Replace the lamp Adjust microswitch as per § 11

Fault	Probable cause	Remedy
The lamp lights continuously	Microswitch is not correctly adjusted	Adjust microswitch as per § 11
The film is not re-wound	Coupling friction too weak	Replace the overload coupling as per § 14
Irregular distribution of the light on the picture	Lamp socket out of alignment	Adjust as per § 23
The picture is not sharp over the whole field	Lens holder out of position	Adjust lens holder as per § 19
The slow motion control switch does not function	S-M- Switch out of alignment Lever jams	Adjust the switch as per § 14 Loosen or adjust the lever as per § 17

SCHALTBILD/SCHEMATIC DIAGRAM/SCHEMA DE CONNEXION



§ 5 REPLACEMENT OF TRANSFORMER 860 1182 (1188, 1154) (see Fig. 1)

- o Remove lid 732 2210.
- o Disconnect the wires of the transformer.
- o Unscrew screw 960 770 and remove washer 952 267.
- o Unscrew the lower screw 960 766.
- o Remove the transformer by uplifting it.

CAUTION : Do not omit the spacing sleeve 732 3108 located under the transformer.

REASSEMBLE in reverse order of dismantling.

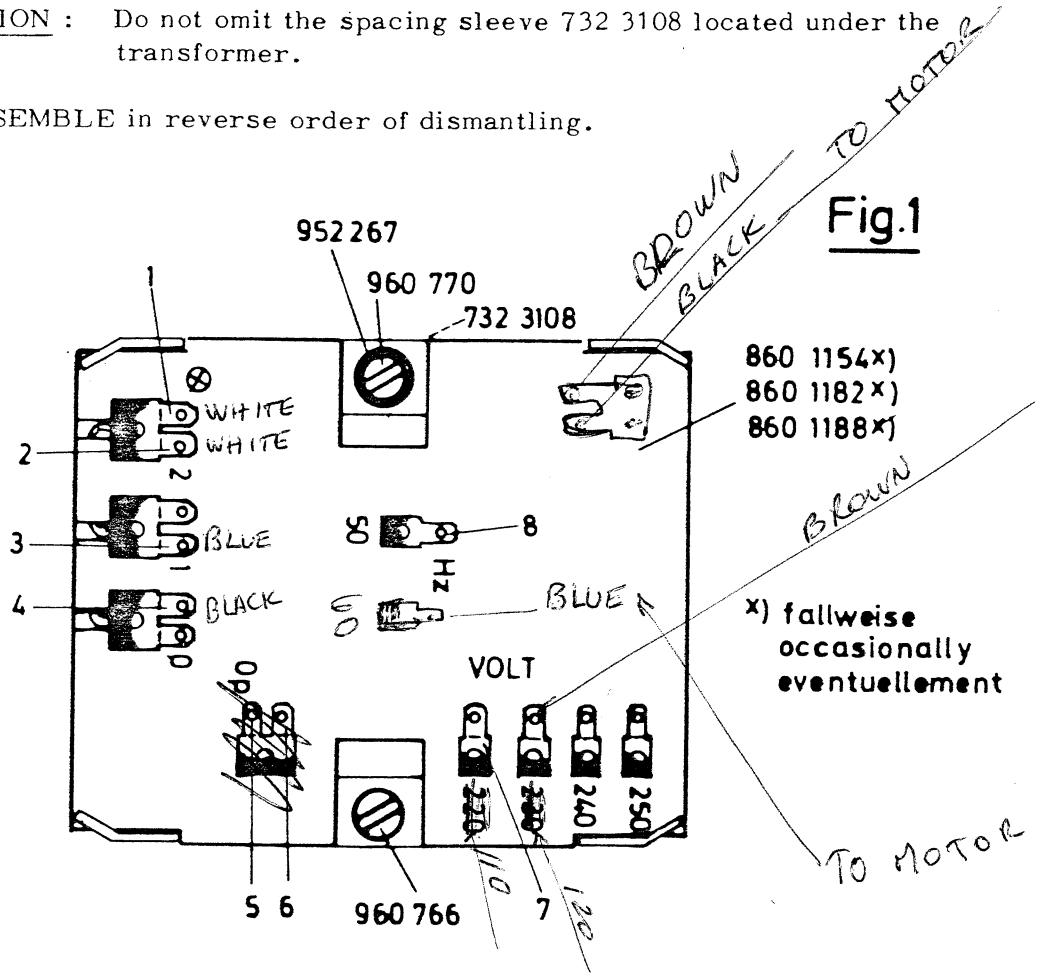


Fig.1

o	1 = white	wire	Film threading lamp
o	2 = white	wire	Switch
o	3 = blue/yellow	wire	Switch
o	4 = black	wire	Lamp
o	5 = blue/yellow	wire	Motor
o	6 = brown	wire	Switch
o	7 = brown	wire	Mains lead receptacle
o	8 = black	wire	Motor

§ 6 REPLACEMENT OF MOTOR 732 1910 (1912, 1914) (see Fig. 2)

- o Dismantle the transformer (see § 5).
- o Remove chain 969 521.
- o Undo the motor connections (see Fig. 1).
- o Remove belt 731 5629 from pulley 731 1912.
- o Loosen screw 960 514 of the chain adjuster K and remove the chain adjuster K (see Fig. 2).

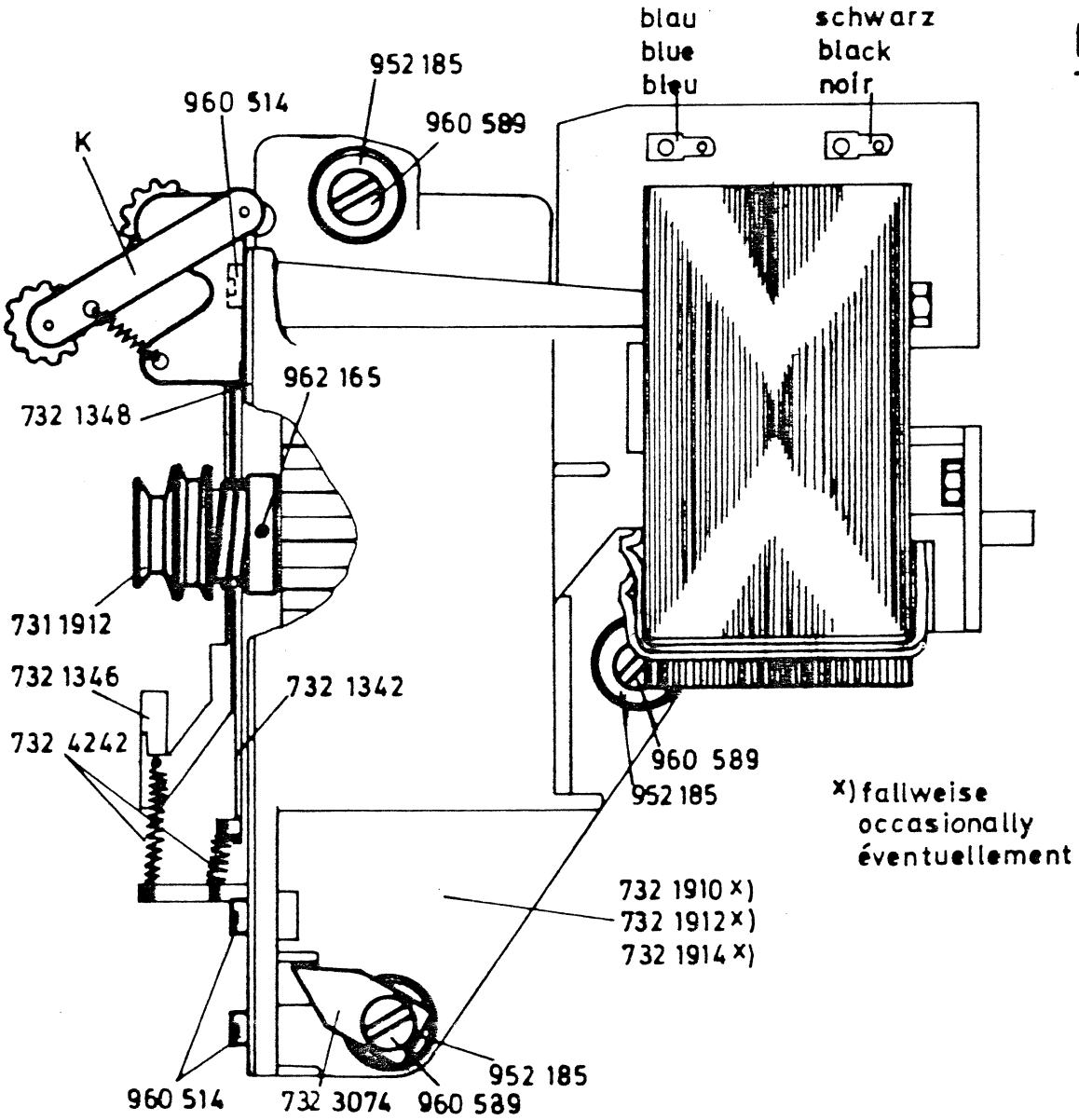


Fig.2

- o Unscrew the 3 screws 960 589 (see Fig. 2).
- o Remove the 3 washers 952 185 and the connecting part 732 3074 (see Fig. 2).
- o Set the speed selector on 18 f.p.s.
- o Remove the motor from the casing by uplifting it at its upper fixing point by means of a screwdriver.

CAUTION : Be careful not to damage the switching cam 732 4104 of the speed selector while uplifting the motor.

- o Remove the motor from the casing by uplifting it at its lower fixing point by means of a screwdriver.
- o Dismantle the motor from its central fixing point by uplifting it.

CAUTION : Be careful not to damage the chain wheel 714 3025 and not to bend its bearing 732 3440.

- o Remove the motor downwards.
- o Unscrew the 4 screws 960 514 and remove the fan protection 732 1348 (see Fig. 2).
- o Loosen the 2 screws 962 165 of the motor-pulley assembly 731 1912 (see Fig. 2).
- o Remove assembly 731 1912 from the motor shaft.

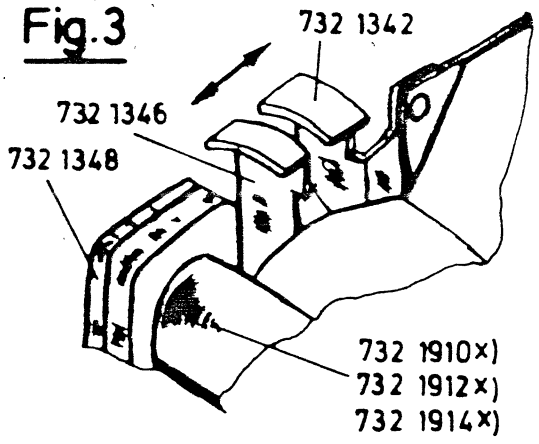
ASSEMBLY

- o Shift the motor-pulley assembly 731 1912 towards the fan 713 3040 and fix it slightly by means of 2 screws 962 165 (see Fig. 2).
- o Fix fan protection 732.1348 slightly by means of 4 screws 960.514 (see Fig.2)
- o Insert the motor with stator underneath chain wheel 714 3025.
- o Push the motor on to its central fixing point.
- o Afterwards push it on to its lower fixing point.
- o Finally push it on to its upper fixing point.
- o For further assembly, proceed in reverse order of dismantling.

ADJUSTMENT

- o Shift the motor-pulley assembly 731 1912 until it gets aligned with the shutter pulley 731 1308.
- o Loosen 4 screws 960 514 and shift the fan protection 732 1348 so as to obtain the best possible light rendition via filter support 732 1346.
- o Tighten the 4 screws 960 514.
- o Switch on projector.
- o Check the light output at all speeds.
- o If light reducer 732 1342 is not perfectly centered, its position may be rectified by displacing excenter E (see Fig. 3).

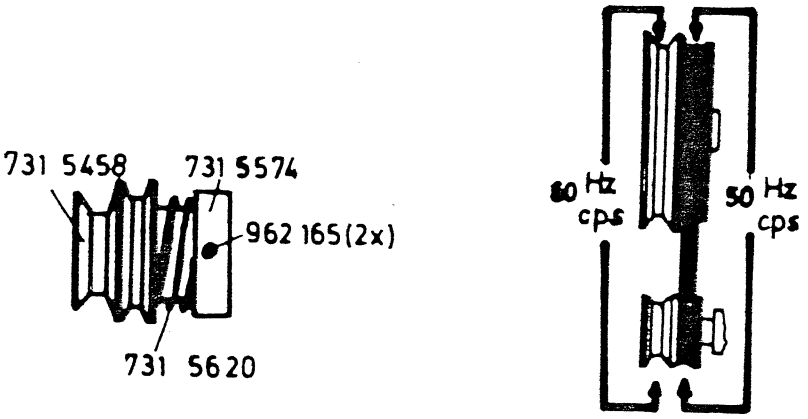
Fig.3



§ 7 REPLACEMENT OF COUPLING SPRING 731 5620 (see Fig. 4)

- o Remove lid 732 2210 and belt 731 5629.
- o Loosen the 2 screws 962 165 (see Fig. 4).
- o Remove the motor-pulley assembly 731 1912.
- o Press the coupling spring 731 5620 against pulley 731 5458 and remove coupling support 731 5574 laterally.
- o Remove coupling spring 731 5620.

Fig.4



REASSEMBLE in reverse order of dismantling.

ADJUSTMENT

- o The shutter pulley 731 1308 should be positioned parallelly with the coupling support, i.e. drive belt 731 5629 must run in a right angle with respect to the motor shaft.

§ 8 REPLACEMENT OF SPOOL AXLE 732 1064

- Remove rear lid 732 2210.
- Dismantle chain 969 521.
- Unscrew knurled nut 700 3990.
- Remove spring 713 3395 and washer 732 3444.
- Remove the 2 friction discs 732 3492 and washer 732 3446 as well as 732 3444.
- Remove safety washer 967 326 and washer 952 807 in front of chain wheel 26 732 3442 and behind bearing 732 3440 of the spool axle.
- Remove spool axle 732 1064, friction disc 704 5930 and pressure spring 704 6110.

REASSEMBLE in reverse order of dismantling.

ADJUSTMENT

- The winding friction is adjusted by turning knurled nut 700 3990.
- Hook a small piece of film in a 400 ft. reel and measure the friction by means of a dynamometer held steadily.
- The value must be comprised between

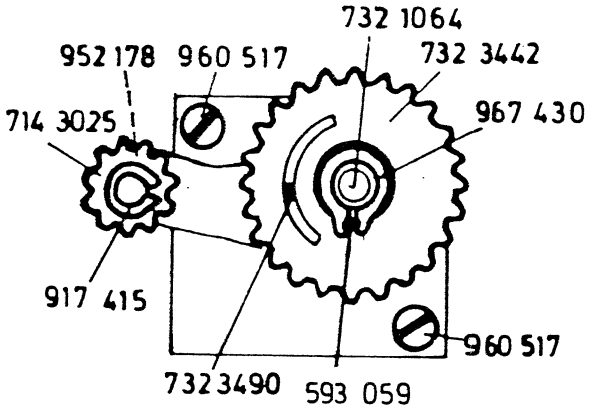
20 and 40 g

§ 9 REPLACEMENT OF CHAIN WHEEL 26 732 3442 AND BEARING 732 3440

(see Fig. 5)

- Remove lid 732 2210.

Fig.5



- Dismantle spool axle 732 1064 (see § 8).
- Remove safety ring 967 430 and spring washer 953 059 from bearing 732 3440 (see Fig. 5).
- Remove chain wheel 26 732 3442 and driver 732 3490 (see Fig. 5).
- Remove ring 967 415, washer 952 178 and chain wheel 11 714 3025 with washer 952 178 (see Fig. 5).
- Unscrew the 2 screws 960 517 and remove bearing 732 3440(see Fig. 5).

REASSEMBLE in reverse order of dismantling.

§ 10 REPLACEMENT OF PLUG RECEPTACLE 732 1510

- Remove lid 732 2210.
- Dismantle the transformer (see § 5).
- Screw out knurled wheel 704 1100 (see Fig. 7).
- Unscrew 2 screws 960 523 and remove them with 4 washers 952 758 (see Fig. 7).
- Remove ring 967 326 from the casing.
- Remove microswitch 906 012 by uplifting it out from the casing.
- Remove the plug receptable by pressing the 2 tongues against each other.

REASSEMBLE in reverse order of dismantling.

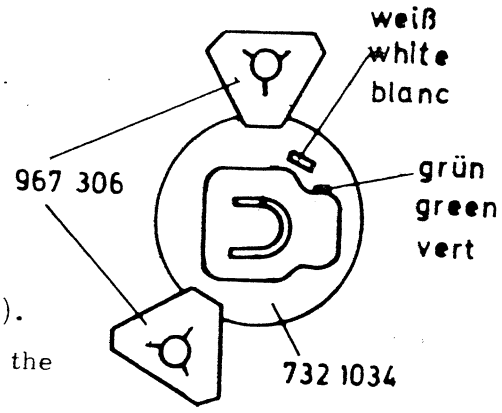
ADJUSTMENT

- Loosen the 2 screws 960 523 (see Fig. 7).
- Displace the microswitch in such a way that the latter controls the start on the respective position of the switch.
- Fix the 2 screws 960 523.

§ 11 REPLACEMENT OF CABLE TREE 732 1500

- o Remove lid 732 2210.
- o Dismantle the transformer (see § 5).
- o Unscrew pin 2 700 3880 of the plug receptacle 732 1026 and remove the latter with fastening blade 713 3025.
- o Disconnect earth connection from the housing.
- o Remove the plug receptacle 732 1026 laterally from the casing.
- o Unsolder the white and green wires from mount 732 1034 (see Fig. 6).
- o Remove the lamp wire from the switch contact 732 1030.
- o Unscrew 2 screws 960 514 and remove them with 2 washers 953 007 (see Fig. 7).
- o Remove the switch contact 732 1030 with the 2 microswitches 906 003 (see Fig. 7).

Fig.6

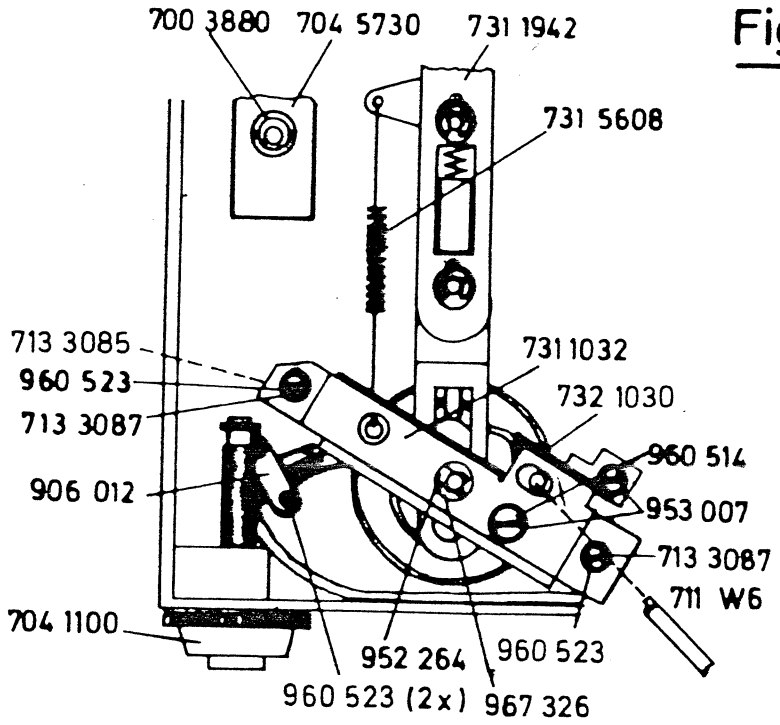


REASSEMBLE in reverse order of dismantling.

ADJUSTMENT

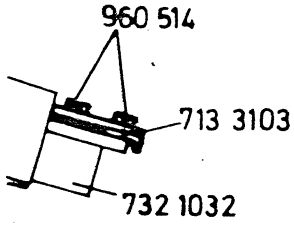
- o Do not omit to switch the projector off while carrying out all adjustments.

Fig.7



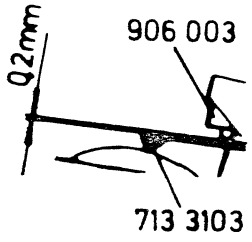
- Check the functioning by activating the main switch.
- For every determined position, the selection knob must coincide with the respective guide marks.
- In order to carry out an adjustment, loosen the 2 screws 960 514 and shift stop spring 1 713 3103 (see Fig. 8).
- The adjustment of the 2 microswitches is effected on STOP position.

Fig.8



- After having loosened the 2 screws 960 514 on blade 731 4460, adjust the microswitches by means of tool 711 - W 6 so as to obtain a slot of approximately 0.2 mm between the springs and the contacts (see Fig. 7 and 9).

Fig.9



REMARK :

On position STOP, the lamp must not light and the motor must not run.

On loading position in forward run the lamp is pre-heated (dark red light).

- On position forward projection : The mechanism works and the lamp lights on.
- On position forward projection + Start : The mechanism works, the lamp lights on and the cartridge recorder starts.
- Set the switch to reverse projection : The mechanism works and the lamp lights on.
- Set the switch to fast rewinding : The lens holder swivels and gets locked, the lamp goes out and the film is rewound.

§ 12 REPLACEMENT OF SPOOL ARM 732 1100

- o Remove lid 732 2210.
- o Remove chain 969 521.
- o Unscrew knurled nut 700 3990 and remove it with spring 713 3395 from the spool axle.
- o Remove drive disc 704 5640, friction disc 506 3870, chain wheel 731 5434, friction disc 506 3870, wheel 731 5430 and washer 952 256.
- o Unscrew pin 700 3880 and remove it with spring 704 5730 from the arm (see Fig. 7).
- o Remove spool arm 732 1100.

REASSEMBLE in reverse order of dismantling.

ADJUSTMENT

- o Adjust the winding friction by means of knurled nut 700 3990.
- o Fit a 400 ft. spool with a piece of film on to the take-up spindle 704 1510 and measure the winding friction by means of a dynamometer held steadily.
- o The value must be comprised between

  20 and 40 g

- o On rewinding, the value measured on the outer diameter of a 400 ft. film spool must be comprised between

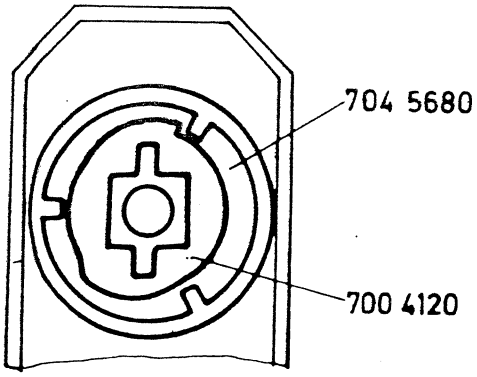
  175 and 250 g

- o If the rewinding friction does not lie within this tolerance, it will be necessary to clean the overload coupling 731 1930 or to replace coupling spring 731 5606 or the overload coupling 731 1930 complete (see § 14).

§ 13 REPLACEMENT OF SPOOL AXLE 704 1510

- o Dismantle spool axle 732 1100 (see § 12).
- o Remove washers 967 326 and 952 256.

Fig.10



- o Unscrew the 4 screws 960 063 from the cover 732 2701 of spool arm.
- o Remove the cover 732 2701 of spool arm.
- o Remove the shaft of chain wheel 731 1130 and chain 969 511.
- o Take off chain wheel 15 704 5670, ratchet 700 4120 and wheel 704 5680 (see Fig. 10).
- o Remove circlips 967 419 as well as washers 952 210 and 962 261.
- o Take off spool axle 704 1510.
- o Remove washers 952 256, 952 326 and 704 5750.

REASSEMBLE in reverse order of dismantling.

Points to be watched at upon reassembling :

- o Wheel 704 5680 must engage in circlips 967 419 located underneath.
- o Ratchet 700 4120 must drive wheel 704 5680 clockwise (see Fig. 10).

ADJUSTMENT

- o After reassembling, check the unwinding friction by running the projector in forward motion. The value must be comprised between

  10 and 20 g

- o Effect the measure at 1 cm from the center of the spool axle (see Fig. 11).
- o Check the rewinding friction as per § 12.

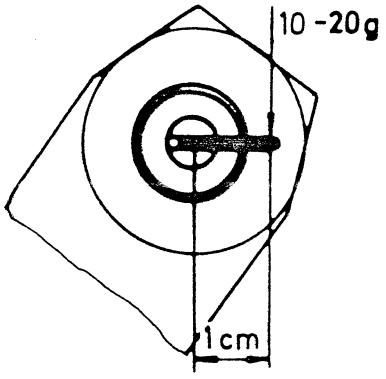
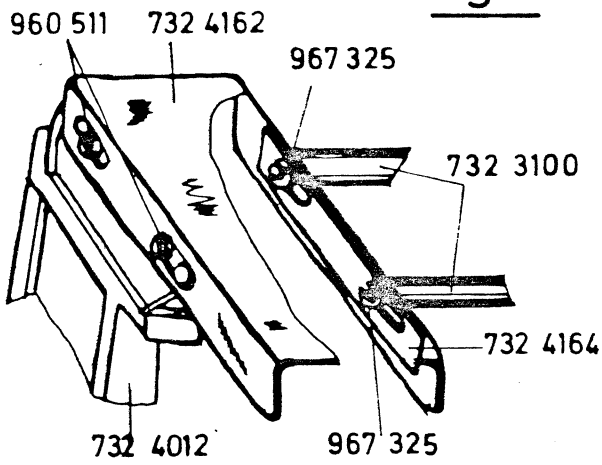


Fig.11

§ 14 REPLACEMENT OF OVERLOAD COUPLING 731 1930

- o Remove lid 732 2210.
- o Remove chain 969 521.
- o Set the speed selector to 3 f.p.s.
- o Remove the 2 washers 967 325 from the lever (see Fig. 12).
- o Remove the lever and spring blade 732 4164 (see Fig. 12).
- o Loosen screw 960 514 and remove chain adapter K (see Fig. 2).

Fig.12



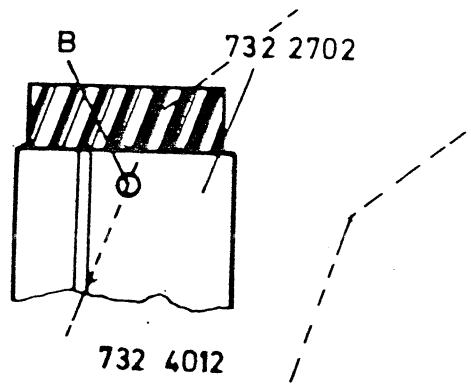
- o Remove upper washer 967 326 and washer 952 178 from switching lever 1 731 1942 (see Fig. 7).
- o Unscrew pin 700 3880 and remove spring 704 5730 of the spool arm (see Fig. 7).
- o Swivel switching lever 1 731 1942 to the left and remove the washer.
- o Remove the 2 washers 967 419 as well as washer 952 255.
- o Remove the forward motion lever 731 1934 and the reverse motion lever 731 1938.
- o Remove the overload coupling.

CAUTION : 2 washers 952 255 are located between the forward and reverse motion levers.

- o Remove washer 952 255 and overload coupling 731 1930.

Fig.12a

REASSEMBLE in reverse order of dismantling.



- o Prior to refitting the slow motion slider, position control cam 732 2702 in the center (hole B like Fig. 12a).
- o Set the speed selector on 3 f.p.s.
- o Insert the slow motion slider, introduce spring blade 732 4164 and fasten all together by means of 2 washers (see Fig. 12 and 12 a).

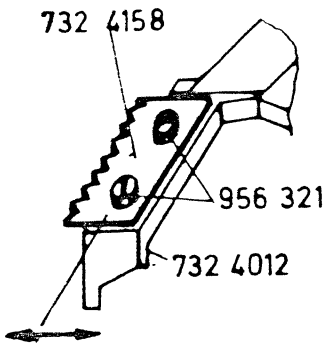


Fig.13

- Upon switching, the slow motion slider must move freely and not hook.
- The slider will get self-adjusted after loosening the 2 screws 960 511.

- If the slider has too much play with respect to control cam 732 2702, loosen the 2 screws 956 321 and shift rack 732 4158 so as to provide a play of approximately 0.5 to 1 mm (see Fig. 13 and § 24).
- After adjustment of the slider, make sure that the switch is moving freely.

ADJUSTMENT

- In forward projection, the play may be adjusted by turning screw 955 118 located on the left-hand side on lever 731 1934.
- In reverse projection, the play may be adjusted by turning eccentric 713 1022 located behind the lever.
- The play of the gears upon fast rewinding may be adjusted by turning eccentric 731 1042 located on the left-hand side from the lever.
- Check the rewinding friction as per § 12.

§ 15 REPLACEMENT OF CLAW MECHANISM 732 1300

- Remove lid 732 2210.
- Dismantle the transformer (see § 5).
- Dismantle the motor (see § 6).
- Dismantle the overload coupling 731 1930 (see § 14).
- Unhook spring 731 5608 (see Fig. 7).
- Remove washer 967 326 and the disc (see Fig. 7).
- Unscrew the 2 screws 960 523 and remove the 2 sleeves 1 713 3087 as well as the 2 sleeves 2 713 3085 (see Fig. 7).
- Swivel support 732 1032 laterally (see Fig. 7).
- Remove the washers between support 732 1032 and lever 731 1942.
- Remove washer 952 841, cam 5 731 3038, cam 4 731 3036 and cam 3 731 3034 from switching knob 732 1018.
- Dismantle ring 967 410 and spring 731 5610 of the switching lever.
- Remove the 2 spring blades 704 4320.
- Remove bow 731 3074, 3 washers and 6 spring blades 704 4330.
- Remove claw mechanism 732 1300.

CAUTION : Make sure that the claw 732 1310 is not in transport position while disassembling claw mechanism 732 1300.

ASSEMBLY

- Prior to reassembling the claw mechanism, make sure that frame lever 731 1326 is correctly engaged in the hollow of the housing.
- Rotate shutter 731 1308 so far as to get the claw out of the transport position.
- Move frame lever 731 1308 forward.
- Bring the switching lever downwards and introduce claw mechanism 732 1300.
- The ratchet 731 1036 located above the lens holder 732 1452 must penetrate into lever 714 3326 of the claw mechanism (behind the control cam).
- The drive pin of the claw mechanism must penetrate into the guide of frame lever.
- The driver of angular lever 731 1318 must engage into cam 2 731 3032.

- Fasten the claw mechanism 732 1300 by means of the spring blades 704 4330, with bow 731 3074 and the 3 screws 960 514.
- After the fixing of the claw mechanism, the spring blades 704 4330 are not allowed to strip off laterally.
- Insert 2 spring blades 704 4320 at the left-hand side of the claw mechanism.
- Hook on the spring of lever 731 5610 and secure it against the casting with washer 967 410.
- Pull lever 731 1306 upwards, mount cam 3 731 3034 and rotate the latter until it is engaged.
- Mount cam 4 731 3036 and cam 5 731 3038 and turn them until they engage.
- Mount the overload coupling.
- For the further process of ASSEMBLING, proceed in the reverse order of dismantling.

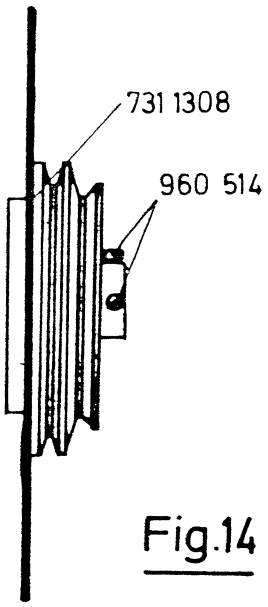
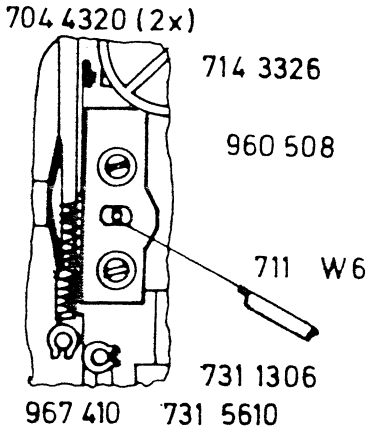


Fig.14

ADJUSTMENT

- The claw penetration is comprised between 0.7 and 1 mm.
- The penetration of the claw beaks is adjusted in the middle transport position of the claw. For the checking, use tool 704 - W 1.
- In order to effect the adjustment, loosen the 2 screws 960 514 located on the shutter assembly and shift the latter laterally. Upon carrying out this intervention, the shutter assembly 731 1308 is not allowed to rotate (see Fig. 14).
- After the adjustment of the penetration, check the travel of the claw at all slow motion rates, i.e. at 3, 6, 9 and 12 f.p.s.
- The slider 714 3326 must open the ratchet of lens holder when it is switched on fast rewinding.
- In case the lens holder does not swivel, loosen the 2 screws 960 508 and shift slider 714 2326 vertically, until the ratchet opens. Use tool 711 - W 6. (see Fig.15).
- Adjust the control cam 732 2702 as per § 16.

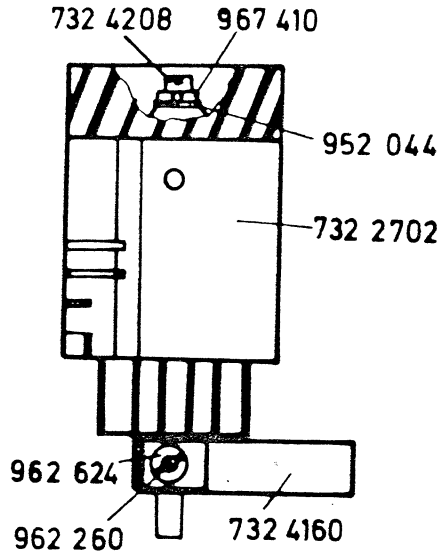
Fig.15



§ 16 REPLACEMENT OF CONTROL CAM 732 2702

- o Dismantle the overload coupling (see § 14).
- o Unscrew nut 962 624 of screw 962 260 (see Fig. 16).
- o Remove the guide of the slow motion slider 732 4160 (see Fig. 16).
- o Loosen screw 962 260 (see Fig. 16).
- o Remove shaft 732 4208 by uplifting it and remove it together with control cam 732 2702 (see Fig. 16).
- o Remove ring 967 410 and the washer (see Fig. 16).
- o Undo cam 732 2702 from shaft 732 4208.

Fig.16

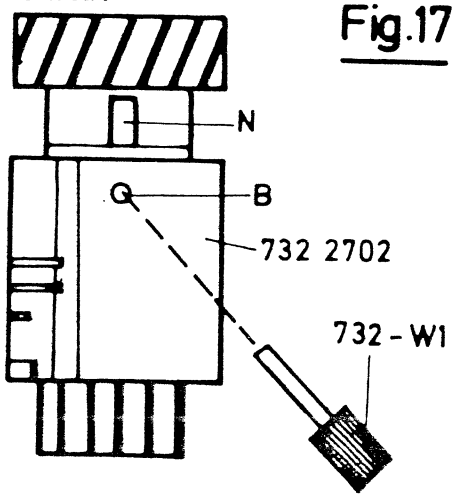


REASSEMBLE in reverse order of dismantling.

ADJUSTMENT

- o While inserting tool 732 - W 1 into hole B of the cam 732 2702, make sure that notch N in the lower part of the cam lies parallel with hole B (see Fig. 17).
- o Bring claw 732 1310 to its upper transport position.
- o Mount the cam so that hole B is in the center position (see Fig. 17).
- o Turn shaft 732 4208 until there is no more play in the distance with respect to part 731 4062.
- o Fasten screw 962 260.
- o Adjust the slow motion lever as per § 17.
- o Effect some functioning tests at all speeds.

Fig.17

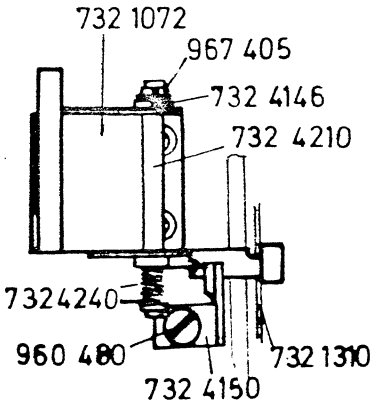


- o Should the mechanism be too noisy, adjust claw as per § 18 and slow motion lever as per § 17.

§ 17 REPLACEMENT OF SLOW MOTION LEVER 732 1072

- o Dismantle overload coupling 731 1930 (see § 14).
- o Dismantle control cam 732 2702 (see § 16).
- o Unscrew screw 960 480 and remove spring 732 4150 (see Fig. 18).
- o Remove the upper ring 967 405 from shaft 732 4210 (see Fig. 18).
- o Unhook spring 732 4240 from lever 732 1072 (see Fig. 18).
- o Remove shaft 732 4210 with spring 732 4240 from bow 732 4146 and lever 732 1072, by pulling it out downwards (see Fig.18).
- o Remove lever 732 1072.

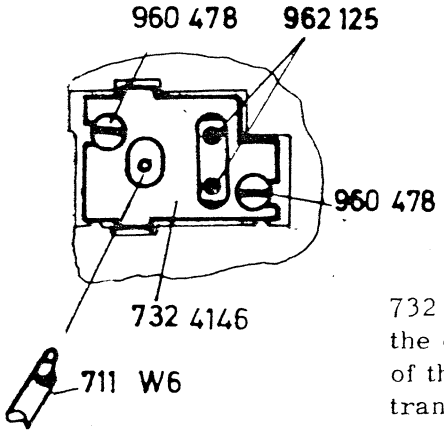
Fig.18



REASSEMBLE in reverse order of dismantling.

ADJUSTMENT

Fig.19



- o Align the lever parallely with cam 732 2702 by rotating the screws 962 125 (see Fig. 19).
- o In conjunction with this adjustment, bring the lever at a distance of 0.05 mm with respect to claw 732 1310. (see Fig.20)
- o Loosen the 2 screws 960 478 behind the lens holder and center bearing 732 4146 by means of tool 711 - W 6 so that the claw is maintained by the lever out of the film gate only in the determined transport positions (see Fig. 19).
- o If the noise of the mechanism increases upon centering of the bearing 732 4146, check the alignment of screws 962 125.

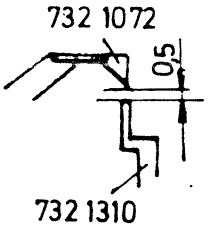


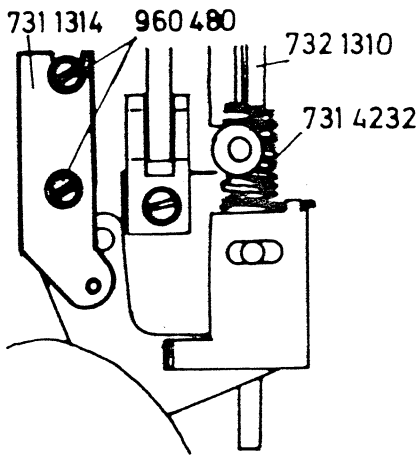
Fig.20

§ 18 REPLACEMENT OF CLAW 732 1310 (see also § 24)

- o Dismantle claw mechanism 732 1300 (see § 15).
- o Loosen the 2 screws 960 514 and remove shutter 731 1308 (see Fig. 14).
- o Remove coupling spring 704 4431.
- o Remove the 2 washers 967 325 as well as the other ones.
- o Extract the claw axle 731 4192 by uplifting it.
- o Undo claw 732 1310 from spring 731 4232 (see Fig. 21).

Further ASSEMBLING to be effected in the reverse order of dismantling. However, do not omit to check the claw pressure and adjust it if necessary prior to mounting the slow motion lever.

Fig. 21



ADJUSTMENT

- o Set the main switch to the upper STOP position.
- o Rotate the shutter assembly until the claw is located at the high point of the cam (lower transport position).
- o In this position, the claw spring must press the claw upwards with

$$750 \begin{matrix} -150 \\ +50 \end{matrix} \text{ g}$$

- o Set the main switch to the lower STOP position.
- o Rotate the shutter assembly until the claw is at the high point of the cam (upper transport position).
- o In this position, the claw spring must pull the claw downwards with

$$750 \begin{matrix} -150 \\ +50 \end{matrix} \text{ g}$$

- o Effect the adjustment after having loosened the 2 screws 960 480 by shifting support 731 1314 (see Fig. 21).

§ 19 REPLACEMENT OF LENS HOLDER 732 1452 (see also § 24)

- o Remove projection lantern 732 2200.
- o Open ratchet 731 1036 and swivel the lens holder.
- o Remove the 2 screws 960 514 from the upper support 732 4530 and remove the 2 washers.
- o Unscrew the 2 screws 960 514 on the lower support 732 4532 and remove 2 washers 953 008.
- o Dismantle lens holder 732 1452.

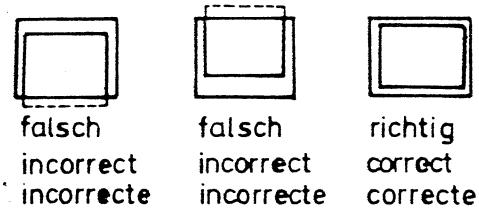
ASSEMBLY

- o Position lens holder 732 1452 and screw it in slightly.

ADJUSTMENT

Fig.22

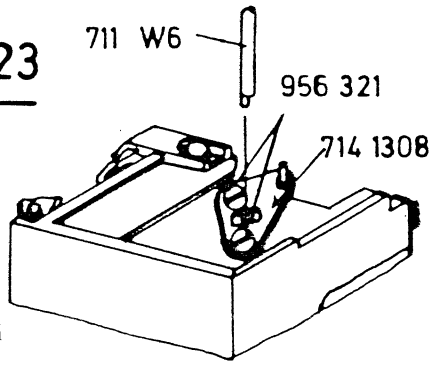
- o Bring the projection window to the position S 8.
- o Make sure that the claw is in the correct middle position (see § 20).
- o Shift lens holder 732 1452 until the window of the film gate is centered with respect to the pressure plate (see Fig. 22).



REMARK

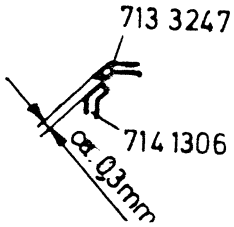
- o After adjustment of the lens holder, the pressure plate must lie flat and the claw beaks are not allowed to rub against the pressure plate 714 1306.
- o In order to eliminate the lateral lack of sharpness of the image, loosen 2 screws 956 231 and shift plate 714 1308 with tool 711 – W 6 (see Fig. 23).
- o The lens holder must nevertheless be maintained by the ratchet.

Fig.23



- o When the lens holder is shut, guide 713 3247 must protrude the pressure plate by approx. 0.3 mm (see Fig. 24).

Fig.24



- o In order to rectify, loosen screw 960 511 and shift guide 713 3247 (see Fig. 23).

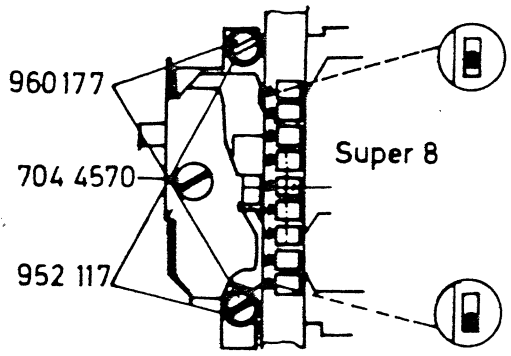
§ 20 REPLACEMENT OF FILM GATE 714 1327

- o Dismantle lens holder 732 1452 (see § 19).
- o Unscrew 2 screws 960 177 and remove the two washers (see Fig. 25).
- o Unscrew screw 704 4570 (see Fig. 25).
- o Remove film gate 714 1327.

ASSEMBLY

- o Insert film gate 714 1327 and screw it in slightly.

Fig. 25



ADJUSTMENT

- o Set the switch on the upper STOP position.
- o Rotate the claw in order to bring it to the middle transport position.
- o Insert a piece of Super 8 film.
- o Loosen the film gate and shift it horizontally until the two claw beaks are located in the center of the perforation (see Fig. 25).
- o Mount the lens holder (see § 19).
- o Project a test film and check the frame line adjustment.
- o Slightly displace the frame line adjusting lever from the front to backwards outside the center position.
- o In this position, the frame line adjustment of the film must coincide with that of the window.
- o For any necessary adjustment, shift the film gate vertically.

REMARKS

- o Check the center position of the claw after every frame line adjustment.
- o After adjustment of the film gate, check the adjustments of the lens holder.

§ 21 REPLACEMENT OF PRESSURE PLATE 714 1306

- o Dismantle lens holder 732 1452 (see § 19).
- o Remove 2 washers 967 324 and 2 washers 952 027.
- o Remove the pressure plate.
- o Remove the 2 pressure springs 714 3628 and the 2 spring plates 714 3625.

REASSEMBLE in reverse order of dismantling.

§ 22 REPLACEMENT OF FILM GUIDE 731 1110

- o Remove lamp housing 732 2200.
- o Unscrew the 2 screws 960 532.
- o Remove film guide 731 1110.

ADJUSTMENT

- o Prior to mounting the film guide, make sure that part 504 5390 is moving freely.
- o If the latter jams, loosen circlips 967 405 in order to free the said slider.

REASSEMBLE in the reverse order of dismantling.

§ 23 REPLACEMENT OF LAMP SOCKET 731 4160

- o Remove lamp housing 732 2200.
- o Take off lamp 907 202.
- o Unscrew the screws 960 526 and 960 532 (see Fig. 26).
- o Remove the washers and sleeves 1 713 3085 as well as sleeves 2 713 3087 (see Fig. 26).
- o Take off lamp socket 731 4160.

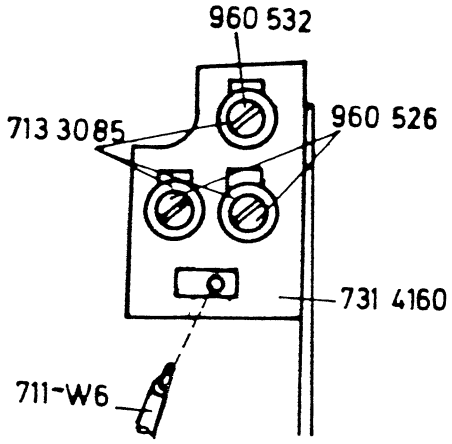


Fig. 26

CAUTION : A pressure spring 731 4252 is located underneath.

REASSEMBLE in reverse order of dismantling.

ADJUSTMENT

- o Connect the projector to the mains.
- o Loosen the screws 960 526 and 960 532 (see Fig. 26).
- o Position tool 711 – W 6 and research the best luminosity by rotating the instrument (see Fig. 26).

§ 24 MODIFICATIONS

o Guide of the slow motion slider 732 1356 (old reference No. 732 4160)

In order to facilitate the adjustment of the slow motion slider, guide 732 4160 was modified, inasmuch as a spring blade and an adjusting screw were added.

Following this modification, the guide bears the new reference No. 732 1356. As regards the adjustment with respect with the old type, see § 14, it will no longer be necessary to proceed to a subsequent dismantling, considering that the play may be adjusted to 0.5 to 1 mm via screw 955 783 (see Fig.27)

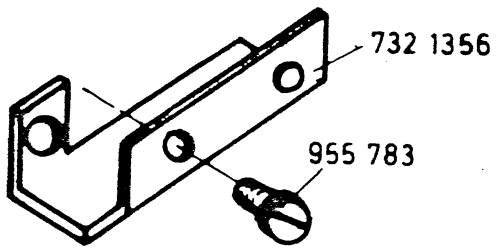


Fig.27

This modification takes place as from serial No. 4 320 900. approximately.

o Adjusting plate 732 4534

Following the application of adjusting plate 732 4534 on the upper hinge 732 4530 (lens holder), it is possible to carry out a precise adjustment of pressure plate 714 1306 with respect to film gate 714 1327. This way, the pressure plate may be aligned parallely to the film gate by loosening screw 955 783 and by shifting adjusting plate 732 4534 (see Fig. 28).

This modification takes place as from serial No. 4 320 900 approximately.

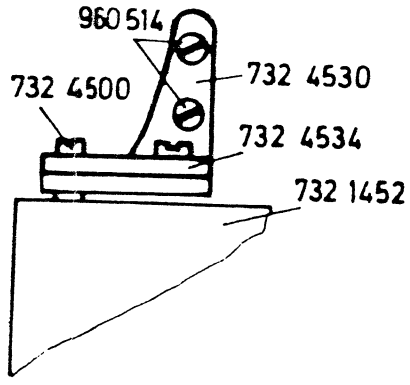


Fig.28

o Damage during transit

Before we started with the serial production we knew already by shock- and knock-tests that the styropore packing might touch the slow motion knob, thus damaging this knob or in some cases also the packing itself. Therefore, starting with the serial production, all front halves of the packing were cut out farther in the area of the slow-motion knob, in order to prevent such damages during transit.

Unfortunately we had to state later that upon packing up the projectors, apparently some of the cut-out and not cut-out packing halves were mixed up, and thus further transport damages occurred again.

Starting approx. with Serial No.4,317.000 the shape of both styropore packing halves was generally modified and such damages should no more occur. Besides, at the same time the styropore material was reinforced and additional ribs were applied on the two packing halves.

o Outer carton

We had to state in some cases that due to continuous pressure, as f.i. with projectors piled up one on the other, the glued-up section of the outer carton became loose.
Starting with Serial No.4,329.140 all outer cartons will be provided additionally with paper-clips until a perfect gluing method is found.

o Claw spring 731.4232

In order to improve the starting force of the projector, the power consumption of the claw mechanism was reduced by modifying the pressure of claw spring 731.4232 approx. starting with Serial No. 4,333.470. This means that the adjustment values (forward-and reverse run) for this claw spring, according to § 18, are corrected from the former 750 grams to the lower tolerance limit, while the tolerance itself remains 600 - 800 grams.

o Chain 969.521

By error the wrong reference number 969.517 (shorter chain) for the take-up chain was indicated in the spare parts catalogue. The correct reference number for this chain in the 610 D is 969.521.

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MARK 610D

SERVICE - INFORMATION 1

TECHNICAL DATA

Film size:	Super-8, Single-8, Standard-8, for 120 m of acetate film (for polyester film accordingly more)
Change of film size:	by displacement of the slider; luminous indicator for Super-8/Single-8 BLUE, for Standard-8 YELLOW.
L e n s:	Zoom lens Vario-Eupronet 1,3/15-30 mm, 7 lens elements.
Focusing:	by knurled knob.
Illumination system:	12V/100 W tungsten-halogen lamp with diathermic reflector and preheating to protect the lamp.
Signalization lamp:	12V/3W effective in the positions: Threading and rewinding.
Driving system:	Asynchroneous motor over V-belt.
Control:	by main switch and slow motion knob.
Switch positions:	Stop-position, threading position, forward projection with light, forward projection with light and starting contact for cartridge recorder, reverse projection with light, rapid rewind through film channel (or external rewind).
Switch position of slow motion button:	0 /18 / 12 / 9 / 6 / 3 / 0 f/sec. without flickering, lumineous indicator for 18 f/sec.GREEN, possibility to switch during run; it is also possible to activate the slow motion during reverse projection.
Starting contact for cartridge recorder:	Socket for simultaneous start and stop of both the projector and recorder.
Film threading:	Entirely automatic up to the core of the rear reel.
Frame adjustment:	by lever.
Film cutting device:	built-in in the projector.

INSTRUCTIONS FOR REPAIR

Friction of the front reel spindle:	Jam a short piece of film into a reel of 120 m and measure the friction by means of a spring balance: 20 - 40 grams. Rewind friction value at the outest measuring point of a 120 m reel: 175-250 grams. Adjust friction by knurled nut 700.3990.
Friction of take-up reel spindle (rear):	Jam a short piece of film into a 120 m reel and measure the friction by means of a spring balance: 20 - 40 grams. Adjustment by knurled nut 700.3990.
Claw:	Verify the claw-protruding length 0,7 - 0,9 mm with tool 704-W 1. Adjustment by displacing the shutter 731.1308. After adjustment all functions must again be regulated and verified (slow motion speeds).
Slow motion lever (SM):	Through centering by an excenter the SM lever is adjusted behind the lens bearer. A regular and smooth run may be adjusted by means of 2 grub screws 962.125 behind the lens bearer.
Lens bearer:	Can be opened only in stop-or threading position by activating the catch 731.1036.
Removal of the motor:	Take away the chain stretch 732.3048, take off the chain 969.521, remove transformer, take off the V-belt 731.5629, put speed switch on 18 f/sec., unscrew fixing screws, remove motor by lifting with a wrench, first near the speed switch, then near the two other fixing points. Take care not to damage the take-up bearing 732.3440 !
Removal of the claw mechanism:	Remove the motor, set speed switch to 0-position. Take off BZ-washers at slow motion slider 732.4012 and lift out the latter. Take off the main switch support together with forward and rewinding gears. Unscrew and take off claw mechanism.
Filter centering:	to be adjusted by displacing the fan cover.

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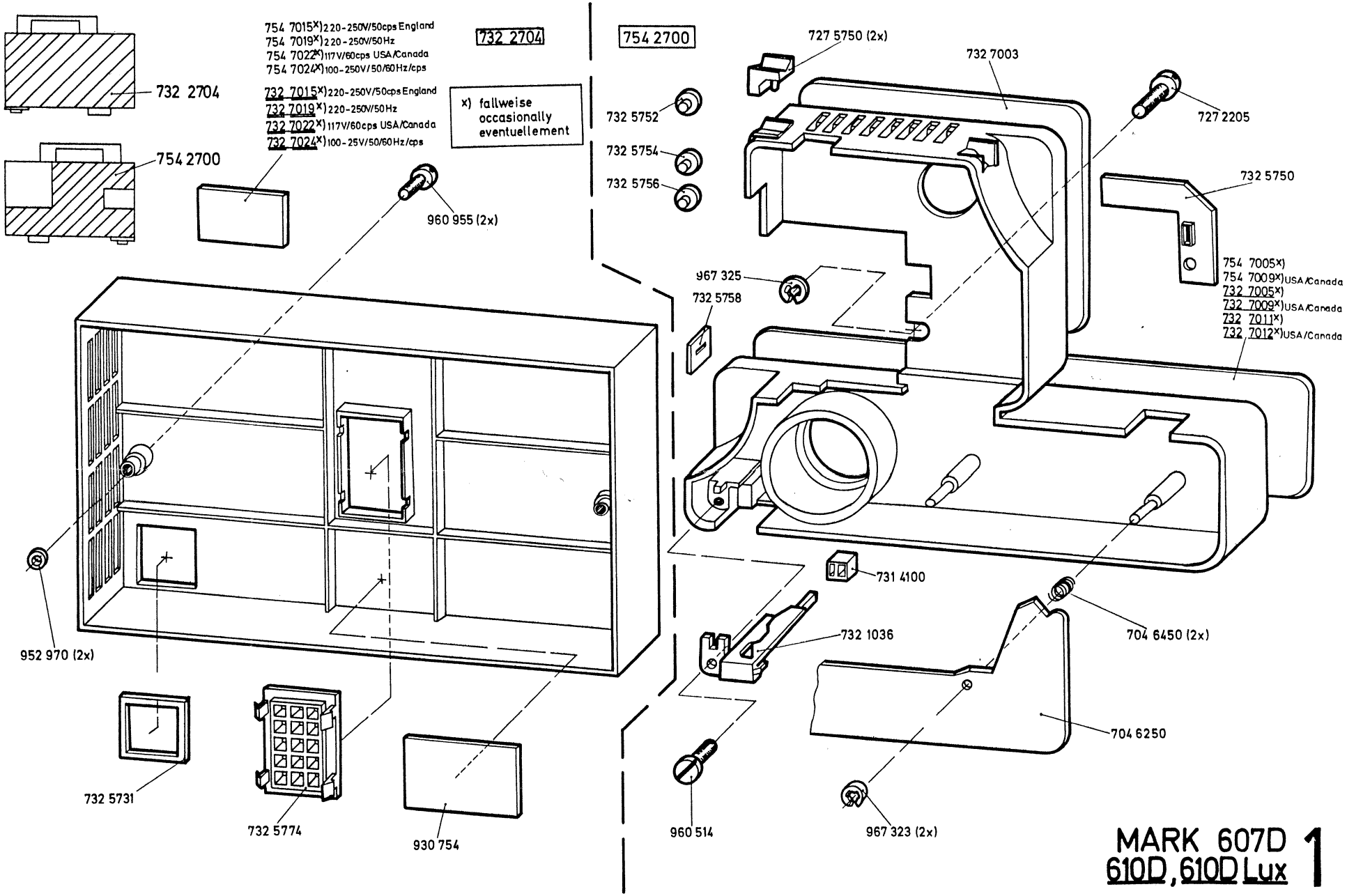
MARK 610D
MARK 610D Lux

ERSATZTEIL – KATALOG
SPARE PART CATALOGUE
CATALOGUE DE PIÉCES DÉTACHÉES

	607D	610D
zweite Ausgabe ab: second edition starting with: seconde édition à partir de:	5 046 132	4 994 884



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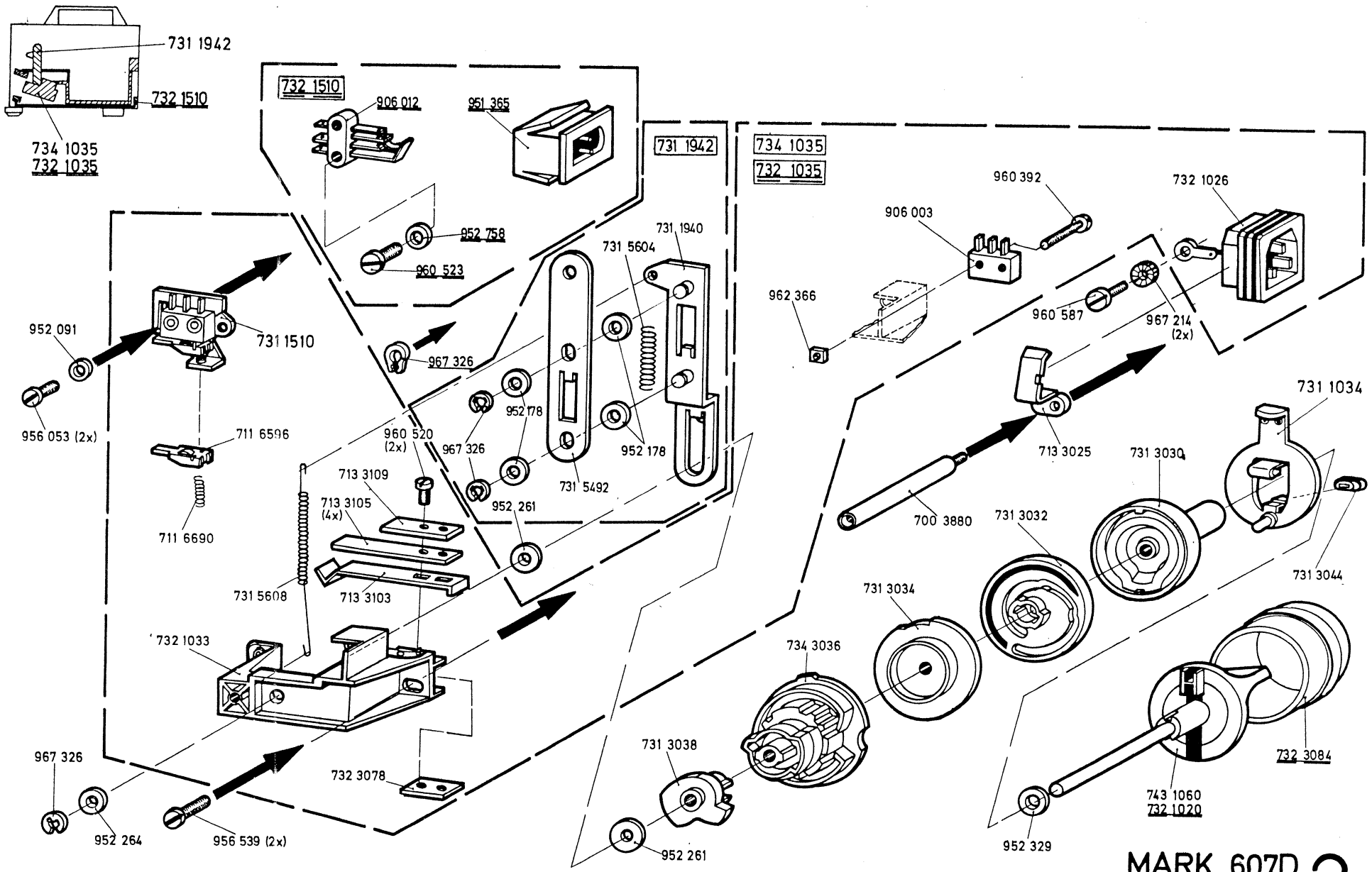
731 1942
732 1510
734 1035
732 1035
906 012
951 365
952 758
960 523
731 1940
731 5604
952 091
731 1510
967 326
956 053 (2x)
711 6596
711 6690
960 520
(2x)
967 326
952 178
952 178
731 5492
713 3109
713 3105
(4x)
952 261
731 5608
713 3103
732 1033
732 3078
967 326
952 264
956 539 (2x)
731 3038
952 261
962 366
906 003
960 392
732 1026
960 587
967 214
(2x)
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731 1034
731 3030
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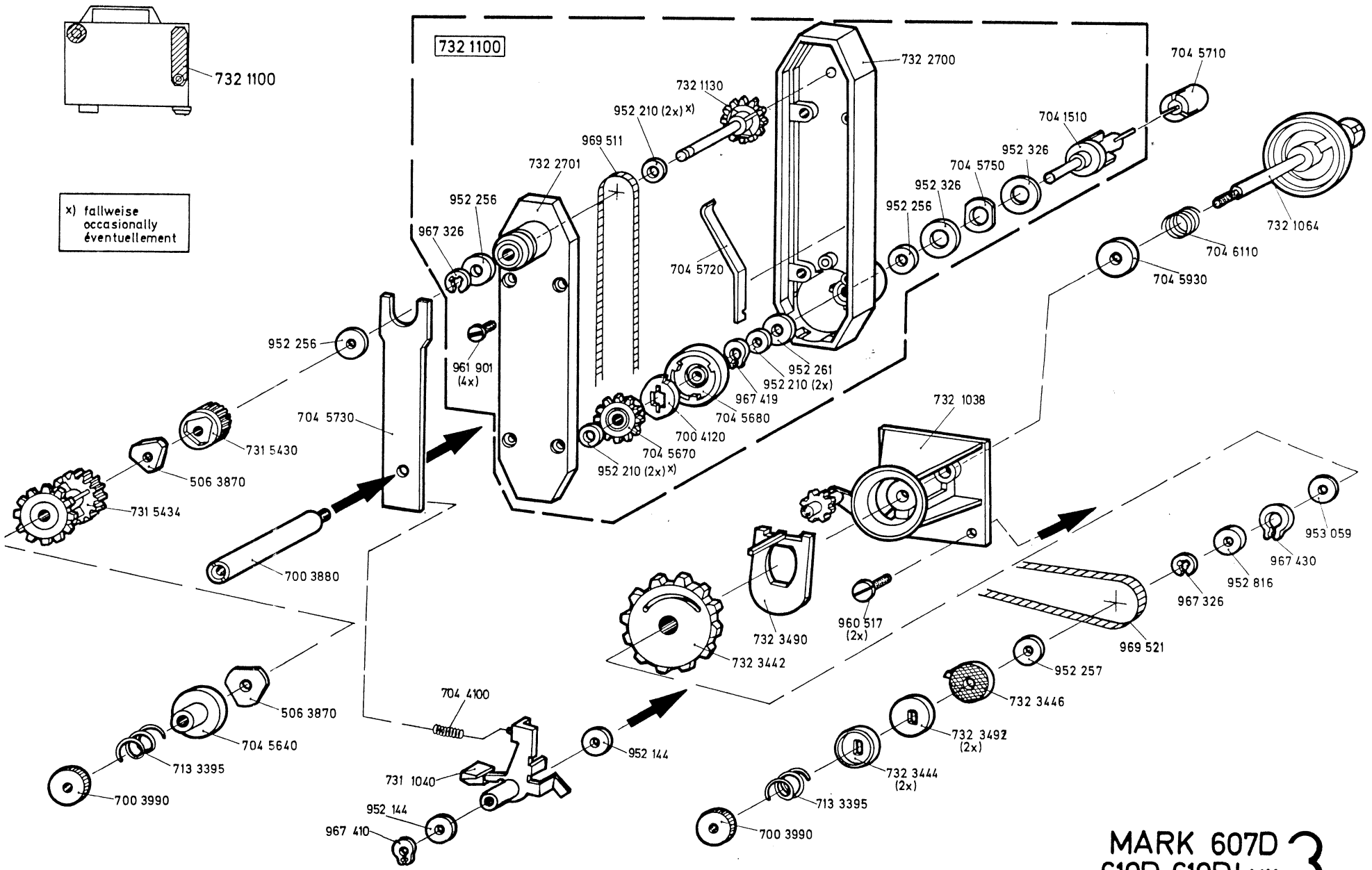

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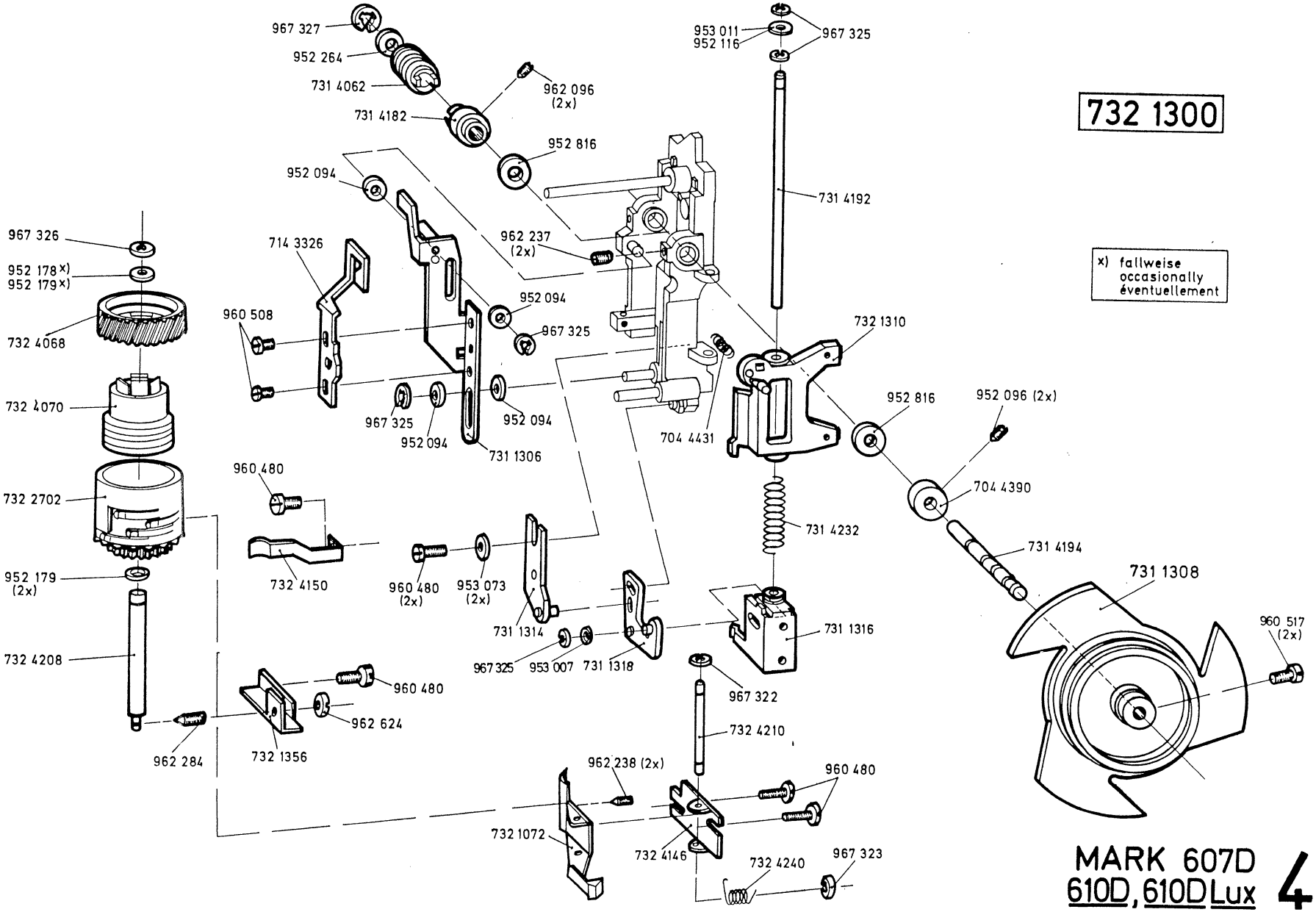

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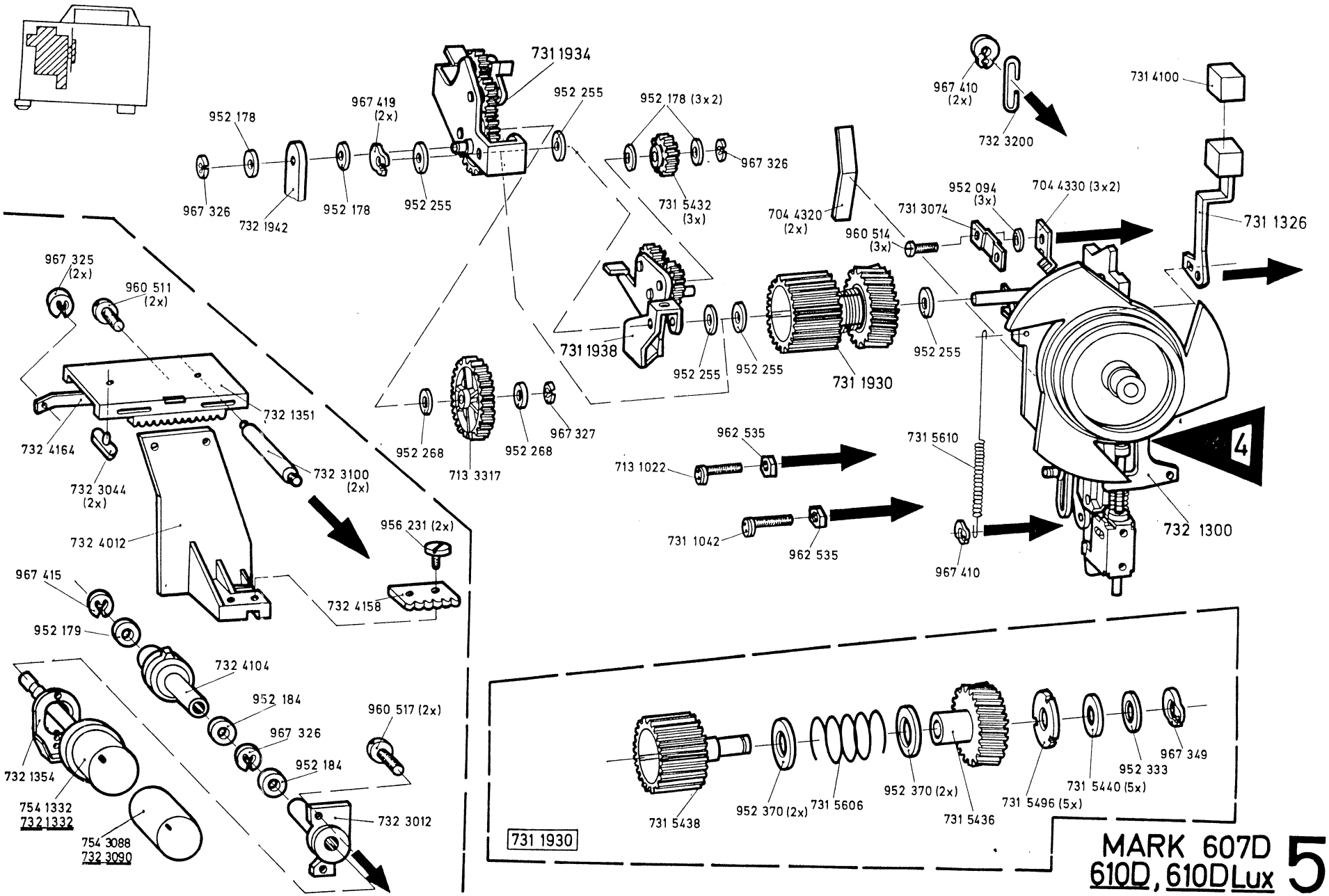

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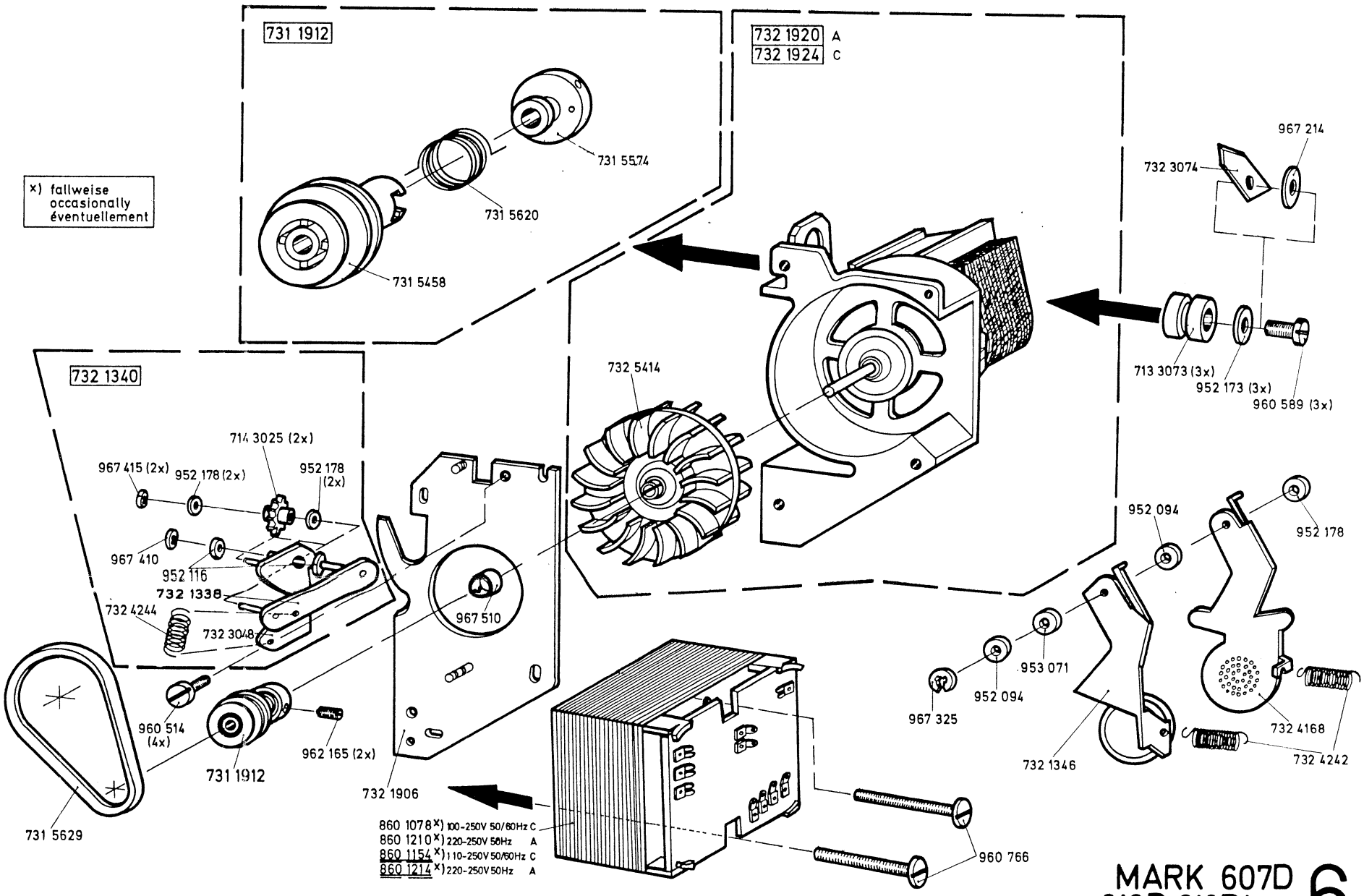

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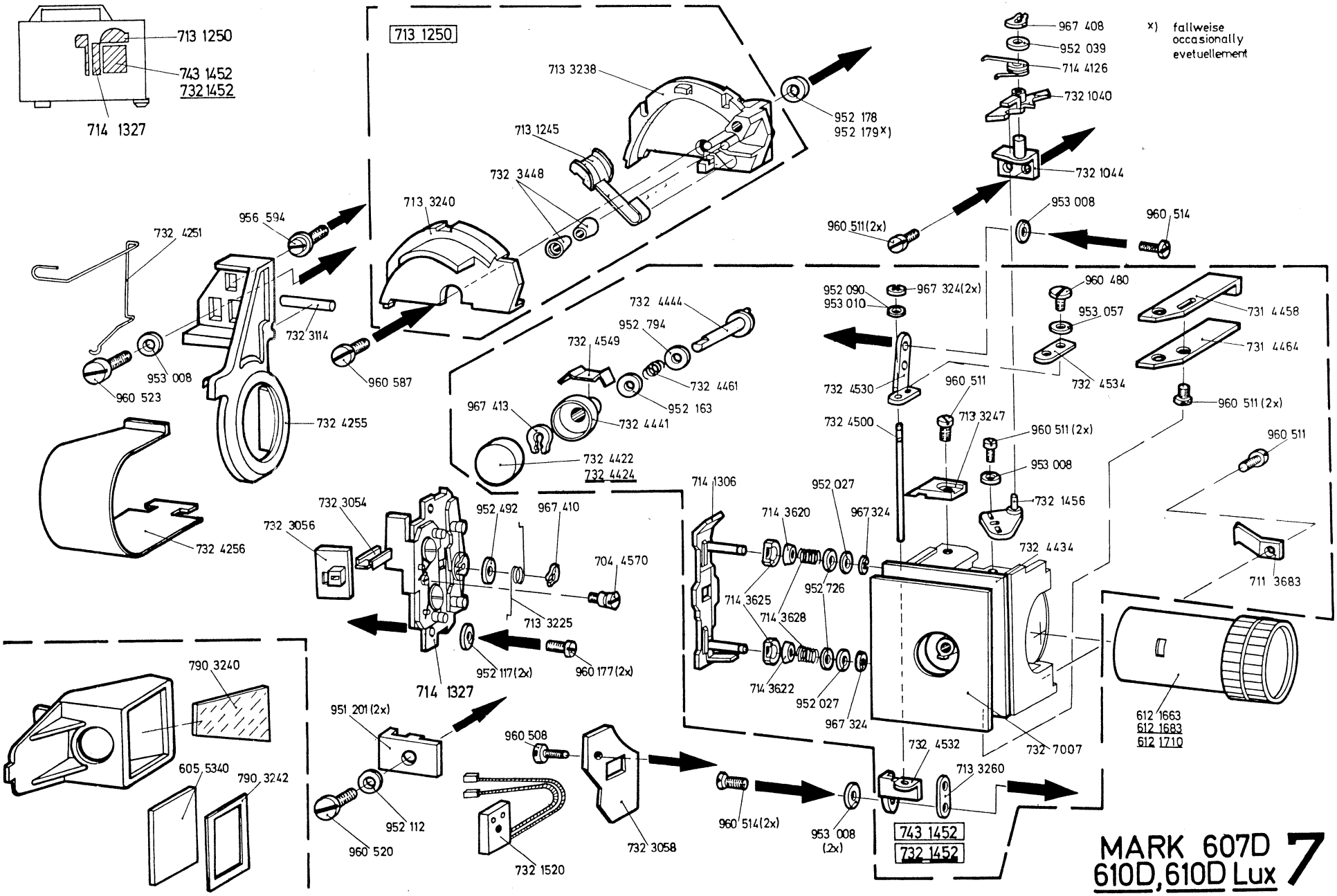

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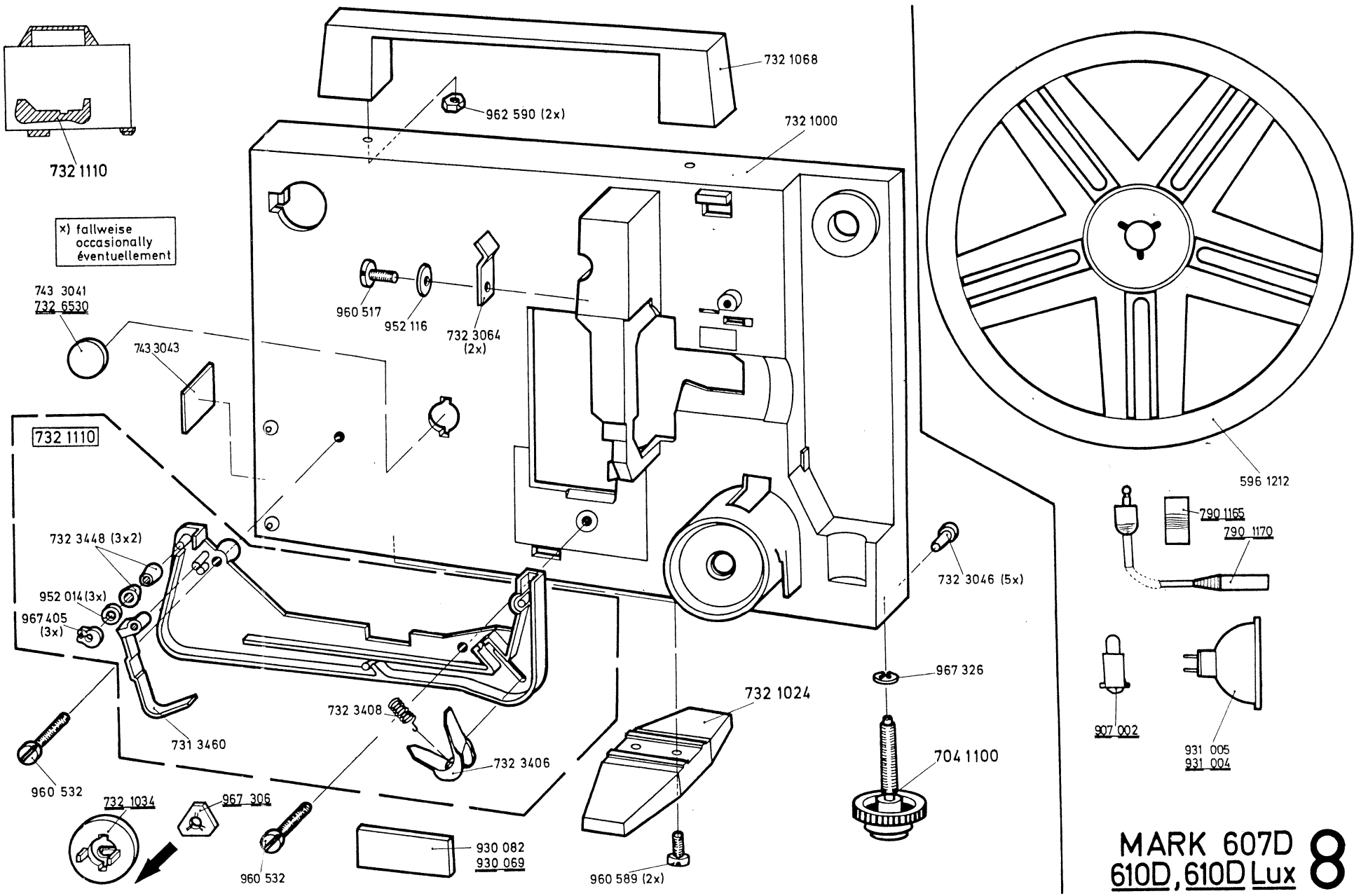
732 1110
x) fallweise
occasionally
éventuellement
743 3041
732 6530
743 3043
732 1110
732 3448 (3x2)
952 014 (3x)
967 405
(3x)
731 3460
960 532
732 1034
967 306
960 532
732 1068
962 590 (2x)
732 1000
960 517
952 116
732 3064
(2x)
732 3408
732 3406
930 082
930 069
960 589 (2x)
732 1024
732 3046 (5x)
967 326
704 1100
596 1212
790 1165
790 1170
907 002
931 005
931 004
MARK 607D
610D, 610D Lux
8

Teil Part Pièce	Bezeichnung	Designation	Désignation	607D	610D	610D Lux	Seite Page
506 3870	Reibscheibe	Friction disc	Disque de friction	x	x	x	3
596 1212	Filmspule	Film reel	Bobine	x	x	x	8
605 5340	Marata - Scheibe	Marata screen	Écran Marata	x	x	x	7
612 1663	Objektiv 1,6/17-30	Zoom lens 1,6/17-30	Objectif 1,6/17-30	x			7
612 1683	Objektiv 1,3/15-30	Zoom lens 1,3/15-30	Objectif 1,3/15-30		x		7
612 1710	Objektiv 1,2/12,5-25	Zoom lens 1,2/12,5-25	Objectif 1,2/12,5-25			x	7
700 3880	Stehbolzen 2	Stud 2	Goupille 2	x	x	x	2+3
700 3990	Rändelmutter	Knurled nut	Écrou moleté	x	x	x	3
700 4120	Klinke	Lock	Barrage	x	x	x	3
704 1100	Rändelrad mont.	Front foot	Pied avant	x	x	x	8
704 1510	Spulendorn	Reel spindle	Axe de bobine	x	x	x	3
704 4320	Blattfeder 1	Spring 1	Ressort 1	x	x	x	5
704 4330	Blattfeder 2	Spring 2	Ressort 2	x	x	x	5
704 4390	Stellring	Setting ring	Bague de réglage	x	x	x	4
704 4100	Schaltfeder	Spring	Ressort	x	x	x	3
704 4431	Eingriffshubfeder	Engagement spring	Ressort embayage	x	x	x	4
704 4570	Schraube	Screw	Vis	x	x	x	7
704 5640	Mitnehmerscheibe	Coupling disc	Disque de couplage	x	x	x	3
704 5670	Kettenrad 15	Chain wheel 15	Roue de chaîne 15	x	x	x	3

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704 5680	Sperrad	Brake wheel	Roue de barrage	x	x	x	3
704 5710	Spulendornhülse	Sleeve	Coulant	x	x	x	3
704 5720	Spannfeder	Spring	Ressort	x	x	x	3
704 5730	Spulenarmfeder	Spring	Ressort	x	x	x	3
704 5750	Sattelscheibe	Spring washer	Rondelle cambrée	x	x	x	3
704 5930	Reibscheibe	Friction disc	Disque de friction	x	x	x	3
704 6110	Druckfeder	Pressure spring	Ressort presseur	x	x	x	3
704 6250	Filmkanalabdeckung	Film channel cover	Recouvrement	x	x	x	1
704 6450	Feder	Spring	Ressort	x	x	x	1
711 3683	Kassettenfeder	Spring	Ressort	x	x	x	7
711 6596	Wippe	Sweep	Bascule	x	x	x	2
711 6690	Feder	Spring	Ressort	x	x	x	2
713 1022	Exzenter	Eccentric	Excentrique	x	x	x	5
713 1245	Wippenfeder	Tilting spring	Ressort bascule	x	x	x	7
713 1250	Einfädelkufe mont.	Threader	Enfileur	x	x	x	7
713 3025	Halteblech	Fastening blade	Maintien	x	x	x	2
713 3073	Gummischeibe	Rubber disc	Disque	x	x	x	6
713 3103	Rastfeder 1	Spring 1	Ressort 1	x	x	x	2
713 3105	Rastfeder 2	Spring 2	Ressort 2	x	x	x	2
713 3109	Versteifung	Stiffening plate	Lame de maintien	x	x	x	2
713 3225	Seitenandruckfeder	Spring	Ressort	x	x	x	7
713 3238	Einfädelkufe 1	Threader 1	Enfileur 1	x	x	x	7

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713 3240	Einfädelkufe 2	Threader 2	Enfileur 2	x	x	x	7
713 3247	Abweiser	Film guide	Guide film	x	x	x	7
713 3260	Plättchen	Plate	Plaquette	x	x	x	7
713 3317	Zahnrad 34/1	Gear wheel 34/1	Roue dentée 34/1	x	x	x	5
713 3395	Wickeldornfeder	Spring	Ressort	x	x	x	3
714 1306	Andrücker vern.	Pressure plate	Presseur	x	x	x	7
714 1327	Bildbühne	Film guide	Film guide	x	x	x	7
714 3025	Kettenrad 11	Chain wheel 11	Roue de chaîne	x	x	x	6
714 3326	Klinkenschieber	Intermediate lever	Levier	x	x	x	4
714 3620	Buchse oben	Upper bushing	Coulant supérieur	x	x	x	7
714 3622	Buchse unten	Lower bushing	Coulant inférieur	x	x	x	7
714 3625	Federteller	Spring guide	Taquet	x	x	x	7
714 3628	Kegelandruckfeder	Spring	Ressort	x	x	x	7
714 4126	Schenkelfeder	Spring	Ressort	x	x	x	7
727 2205	Schraube	Screw	Vis	x	x	x	1
727 5750	Kufe	Guide	Guideur	x	x	x	1
731 1034	Schwenkhebel	Tilting lever	Levier levage	x	x	x	2
731 1040	Schalterhebel	Switch lever	Levier commutateur	x	x	x	3
731 1042	Exzenter	Eccentric	Excentrique	x	x	x	5
731 1306	Schalthebel	Switch lever	Manette déclech.	x	x	x	4
731 1308	Flügelblende mont.	Shutter assembly	Bloc obturateur	x	x	x	4

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731 1314	Träger	Support	Support	x	x	x	4
731 1316	Schieber	Slider	Glisseur	x	x	x	4
731 1318	Winkelhebel	Angular lever	Levier angulaire	x	x	x	4
731 1326	Bildstrichhebel	Frame lever	Levier	x	x	x	5
731 1510	Mikroschalter	Micro switch	Commutateur micro	x	x	x	2
731 1912	Kupplungshalter	Coupling sleeve	Coulante de coupl.	x	x	x	6
731 1930	Überlastkupplung	Overload clutch	Accouplement	x	x	x	5
731 1934	VR-Hebel mont.	VR-lever	Levier VR	x	x	x	5
731 1938	R-Hebel mont.	R-lever	Levier R	x	x	x	5
731 1940	Schalthebel 2	Switch lever 2	Manette déclench.	x	x	x	2
731 1942	Schalthebel	Switch lever	Manette déclench.	x	x	x	2+5
731 3030	Nocke 1	Cam 1	Came 1	x	x	x	2
731 3032	Nocke 2	Cam 2	Came 2	x	x	x	2
731 3034	Nocke 3	Cam 3	Came 3	x	x	x	2
731 3038	Nocke 5	Cam 5	Came 5	x	x	x	2
731 3044	Gleitstück	Sliding piece	Pièce glissante	x	x	x	2
731 3074	Bügel	Holder	Fixeur	x	x	x	5
731 3460	Wippenfeder	Sweep spring	Ressort bascule	x	x	x	8
731 4062	Schnecke	Gear wheel	Came escargot	x	x	x	4
731 4100	Kappe	Cap	Capot	x	x	x	1+5
731 4182	Mitnehmer	Coupling bush	Taquet	x	x	x	4
731 4192	Greiferachse	Claw axle	Axe de griffe	x	x	x	4
731 4194	Blendenachse	Shutter	Obturateur	x	x	x	4
731 4232	Greiferfeder	Claw spring	Ressort de griffe	x	x	x	4

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731 4458	Schaltblech	Blade	Lame	x	x	x	7
731 4464	Stützblech	Support blade	Lame support	x	x	x	7
731 5430	Zahnrad 20/1	Cogwheel 20/1	Roue dentée 20/1	x	x	x	3
731 5432	Zahnrad 14/1	Cogwheel 14/1	Roue dentée 14/1	x	x	x	5
731 5434	Kettenrad 20	Chain wheel 20	Roue de chaîne 20	x	x	x	3
731 5436	Kupplungsrad 1	Coupling wheel 1	Roue de couplage 1	x	x	x	5
731 5438	Kupplungsrad 2	Coupling wheel 2	Roue de couplage 2	x	x	x	5
731 5440	Reibscheibe 2	Friction disc 2	Disque de frict. 2	x	x	x	5
731 5458	Triebling	Drive pulley	Poulie entraînement	x	x	x	6
731 5492	Schalthebel 1	Switch lever 1	Manette déclench.1	x	x	x	2
731 5496	Reibscheibe 1	Friction disc 1	Disque de frict. 1	x	x	x	5
731 5574	Kupplungshälfte	Coupling bush	Bague de couplage	x	x	x	6
731 5604	Druckfeder	Pressure spring	Ressort presseur	x	x	x	2
731 5606	Druckfeder	Pressure spring	Ressort presseur	x	x	x	5
731 5608	Zugfeder	Spring	Ressort	x	x	x	2
731 5610	Feder	Spring	Ressort	x	x	x	5
731 5620	Schenkelfeder	Spring	Ressort	x	x	x	6
731 5629	Keilriemen	Driving belt	Courroie	x	x	x	6
732 1000	Gehäuse vorm.	Casing	Boîtier	x	x	x	8
732 1020	Schaltknopf	Switch key	Bouton		x	x	2
732 1024	Projektorfuß mont.	Foot	Pied	x	x	x	8
732 1026	Steckerwanne mont.	Plug receptacle	Prise de courant	x	x	x	2
732 1033	Lagerbügel	Bearing holder	Maintien	x	x	x	2

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732 1034	Fassung mont.	Lamp socket	Porte-lampe		x	x	8
732 1035	Lagerbügel mont.	Bearing holder	Maintien		x	x	2
732 1036	Schneidblech mont.	Film cutter	Coupe-film	x	x	x	1
732 1038	Lagerbock	Bearing bracket	Palier maintien	x	x	x	3
732 1040	Klinke	Lock	Barrage	x	x	x	7
732 1044	Klinkenlager	Lock bearing	Palier de barrage	x	x	x	7
732 1064	Wickeldorn kompl.	Take-up spindle	Axe d'enroulement	x	x	x	3
732 1068	Griff	Handgrip	Poignée	x	x	x	8
732 1072	Klinke vern.	Lock	Barrage	x	x	x	4
732 1100	Spulenarm mont.	Reel arm	Bras de bobine	x	x	x	3
732 1110	Filmkanal mont.	Film channel ass.	Couloir compl.	x	x	x	8
732 1130	Kettenradwelle	Chain wh. spindle	Axe de roue à ch.	x	x	x	3
732 1300	Blendengehäuse	Claw mechanism	Mécan. de griffe	x	x	x	4+5
732 1310	Greifer	Claw	Griffe	x	x	x	4
732 1332	SM-Knopf mont.	Button SM	Bouton au ralenti		x	x	5
732 1338	Hebel vern.	Lever	Levier	x	x	x	6
732 1340	Kettenspanner	Chain guide	Guide chaîne	x	x	x	6
732 1346	Filterträger	Filter support	Support p. filtre	x	x	x	6
732 1351	SM-Schieber	SM-slider	Gliss. au ralenti	x	x	x	5
732 1354	Abdeckschieber	Cover	Recouvrement	x	x	x	5
732 1356	SM-Schieberführung	Guide for SM-slider	Guideur p. glisseur	x	x	x	4
732 1452	Objektivträger	Lens bearer compl.	Porte-objectif		x	x	7
732 1456	Klinkblech	Lock plate	Plaque de barrage	x	x	x	7
732 1510	Steckerwanne	Plug receptacle	Prise de courant		x	x	2

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732 1520	Steckfassung mont.	Lamp socket	Porte-lampe	x	x	x	7
732 1906	Ventilatorabdeck.	Fan cover	Recouvrement	x	x	x	6
732 1920	Motor A	Motor A	Moteur A	x	x	x	6
732 1924	Motor C	Motor C	Moteur C	x	x	x	6
732 2700	Spulenarm vorm.	Reel arm	Bras de bobine	x	x	x	3
732 2701	Spulenarmdeckel	Reel arm cover	Cache bras de bob.	x	x	x	3
732 2702	Steuernocke	Control cam	Came de commande	x	x	x	4
732 2704	Deckel h	Rear cover	Couvercle	x	x	x	1
732 3012	Lager	Bearing	Palier	x	x	x	5
732 3044	Gleitstück	Sliding piece	Pièce glissante	x	x	x	5
732 3046	Stöpsel	Damper	Amortisseur	x	x	x	8
732 3048	Winkel	Angle	Angle	x	x	x	6
732 3054	Steg	Mark	Marque	x	x	x	7
732 3056	Formatschieber	Slider	Glisseur	x	x	x	7
732 3058	Vorfenster	Window	Fenêtre	x	x	x	7
732 3064	Rastfeder	Spring	Ressort	x	x	x	8
732 3074	Verbindungsstück	Connection piece	Pièce connexion	x	x	x	6
732 3078	Gewindeplättchen	Plate	Plaquette	x	x	x	2
732 3084	Kappe	Cap	Capot		x	x	2
732 3090	Kappe	Cap	Capot		x	x	5
732 3100	Distanzbolzen	Spacer	Écarteur	x	x	x	5
732 3114	Achse	Axle	Axe	x	x	x	7
732 3200	Vorsatzfeder	Spring	Ressort	x	x	x	5
732 3406	Dämpfungsfeder	Spring	Ressort	x	x	x	8

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732 3408	Zugfeder	Spring	Ressort	x	x	x	8
732 4244	Zugfeder	Spring	Ressort	x	x	x	6
732 3442	Kettenrad 26	Chain wheel 26	Roue de chaîne 26	x	x	x	3
732 3444	Abstützscheibe	Disc	Disque	x	x	x	3
732 3446	Mitnehmerscheibe	Coupling disc	Disque de couplage	x	x	x	3
732 3448	Führungsrolle	Guide roller	Rouleau de guidage	x	x	x	7+8
732 3490	Mitnehmer	Engager	Taquet	x	x	x	3
732 3492	Reibscheibe	Friction disc	Disque de friction	x	x	x	3
732 4012	SM-Schieber	SM-slider	Gliss. au ralenti	x	x	x	5
732 4068	Nockenzahnrad	Cogwheel	Roue dentée	x	x	x	4
732 4070	Nocke	Cam	Came	x	x	x	4
732 4104	Schaltnocke	Switch cam	Came commutatrice	x	x	x	5
732 4146	Lagerbügel	Bearing	Palier	x	x	x	4
732 4150	Rastfeder	Spring	Ressort	x	x	x	4
732 4158	Zahnstange	Cog-plate	Plaque dentée	x	x	x	5
732 4164	Blattfeder	Spring blade	Lame ressort	x	x	x	5
732 4168	Lochblende	Light reducer	Réducteur lumière	x	x	x	6
732 4208	Achse	Axle	Axe	x	x	x	4
732 4210	Achse	Axle	Axe	x	x	x	4
732 4240	Klinkenfeder	Lock spring	Ressort barrage	x	x	x	4
732 4242	Zugfeder	Spring	Ressort	x	x	x	6
732 4251	Lampenfeder	Lamp spring	Ressort lampe	x	x	x	7
732 4255	Lampenträger	Lamp holder	Porte-lampe	x	x	x	7
732 4256	Lampenabdeckung	Lamp cover	Recouvrement lampe	x	x	x	7

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732 4422	Kappe	Cap	Capot	x			7
732 4424	Kappe	Cap	Capot		x	x	7
732 4434	O-Rahmen	Support O	Support O	x	x	x	7
732 4441	Drehknopf	Button	Bouton	x	x	x	7
732 4444	Exzenter	Eccentric	Excentrique	x	x	x	7
732 4461	Druckfeder	Pressure spring	Ressort presseur	x	x	x	7
732 4500	Scharnierachse	Hinge axle	Axe de charnière	x	x	x	7
732 4530	Scharnier oben	Upper hinge	Charnière supér.	x	x	x	7
732 4532	Scharnier unten	Lower hinge	Charnière infér.	x	x	x	7
732 4534	Einstellblech	Adjusting blade	Lame de réglage	x	x	x	7
732 4549	Klemmfeder	Spring	Ressort	x	x	x	7
732 5414	Ventilatorläufer	Fan	Ventilateur	x	x	x	6
732 5731	Trafofenster	Transformer window	Fenêtre transform.	x	x	x	1
732 5750	LG-Rahmen	Support LG	Support LG	x	x	x	1
732 5752	Fenster grün	Window green	Fenêtre vert	x	x	x	1
732 5754	Fenster gelb	Window yellow	Fenêtre jaune	x	x	x	1
732 5756	Fenster blau	Window blue	Fenêtre bleue	x	x	x	1
732 5758	Abdeckung	Cover	Recouvrement	x	x	x	1
732 5774	Luftgitter	Air grill	Grille à air	x	x	x	1
732 6530	Kappe	Cap	Capot		x	x	8
732 7003	LG-Schild	Plate LG	Plaquette LG	x	x	x	1
732 7005	SK-Schild	Plate SK	Plaquette SK		x		1
732 7007	OT-Schild	Plate OT	Plaquette OT	x	x	x	7
732 7009	SK-Schild (USA)	Plate SK (USA)	Plaquette SK (USA)		x		1

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732 7011	SK-Schild	Plate SK	Plaquette SK			x	1
732 7012	SK-Schild (USA)	Plate SK (USA)	Plaquette SK (USA)			x	1
732 7015	Schild 220-250V E.	Data p. 50Hz/cps	Plaque signalét.		x	x	1
732 7019	Schild 220-250V	Data p. 50Hz/cps	Plaque signalét.		x	x	1
732 7022	Schild 117V	Data p. 60Hz/cps	Plaque signalét.		x	x	1
732 7024	Schild 100-250V	Data p. 50-60Hz/cps	Plaque signalét.		x	x	1
734 1035	Lagerbügel mont.	Bearing	Palier	x			2
734 3036	Nocke 4	Cam 4	Came 4	x	x	x	2
743 1060	Schaltknopf	Switch button	Bouton commutateur	x			2
743 1452	Objektivträger	Lens bearer	Porte objectif	x			7
743 3041	Abdeckscheibe	Cover disc	Recouvrement	x			8
743 3043	Abdeckung	Cover	Recouvrement	x			8
754 1332	SM-Knopf	Button SM	Bouton SM	x			5
754 2700	Lampengehäuse	Lamp housing	Boîtier lampe	x	x	x	1
754 3088	Kappe	Cap	Capot	x			5
754 7005	SK-Schild	Plate SK	Plaquette SK	x			1
754 7009	SK-Schild (USA)	Plate SK (USA)	Plaquette SK (USA)	x			1
754 7015	Schild 220-250V E.	Data p. 50Hz/cps	Plaque signalét.	x			1
754 7019	Schild 220-250V	Data p. 50Hz/cps	Plaque signalét.	x			1
754 7022	Schild 117V	Data p. 60Hz/cps	Plaque signalét.	x			1
754 7024	Schild 100-250V	Data p. 50-60Hz/cps	Plaque signalét.	x			1

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790 1165	Kupplung	Coupling	Coulante		x	x	8
790 1170	Startkabel	Cable	Câble		x	x	8
790 3240	Spiegel	Mirror	Miroir	x	x	x	7
790 3242	Rahmen	Support	Support	x	x	x	7
860 1078	Trafo C 100-250V	Transformer 50-60Hz/cps	Transformateur	x			6
860 1154	Trafo C 100-250V	Transformer 50-60Hz/cps	Transformateur		x	x	6
860 1210	Trafo A 220-250V	Transformer 50Hz/cps	Transformateur	x			6
860 1214	Trafo A 220-250V	Transformer 50Hz/cps	Transformateur		x	x	6
906 003	Mikroschalter	Micro switch	Commutateur micro	x	x	x	2
906 012	Mikroschalter	Micro switch	Commutateur micro		x	x	2
907 002	Lampe 12V/3W	Lamp	Lampe		x	x	8
930 069	Lampenschild 100W	Lamp plate	Plaquette lampe		x	x	8
930 082	Lampenschild 75W	Lamp plate	Plaquette lampe	x			8
930 754	Tabelle 50/60Hz	Instruction label	Fiche d'instruction	x	x	x	1
931 004	Lampe 12V/100W	Lamp	Lampe		x	x	8
931 005	Lampe 12V/ 75W	Lamp	Lampe	x			8
951 201	Klemmenhälfte	Holder	Maintien	x	x	x	7

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951 365	Steckerwanne	Plug receptacle	Prise de courant		x	x	2
967 510	Kompressionsring	Compressor ring	Anneau compresseur	x	x	x	6
969 511	Kette 247	Chain	Chaîne	x	x	x	3
969 521	Kette 540	Chain	Chaîne	x	x	x	3

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952 014	Scheibe	Washer	Rondelle	2,1	x	4	x	0,1
952 027	Scheibe	Washer	Rondelle	2,6	x	6	x	0,3
952 039	Scheibe	Washer	Rondelle	2,6	x	7	x	0,2
952 090	Scheibe	Washer	Rondelle	3,2	x	4,8	x	0,2
952 091	Scheibe	Washer	Rondelle	3,2	x	6	x	0,2
952 094	Scheibe	Washer	Rondelle	3,2	x	6,5	x	0,1
952 097	Scheibe	Washer	Rondelle	3,2	x	8	x	0,3
952 112	Scheibe	Washer	Rondelle	3,2	x	10	x	0,6
952 115	Scheibe	Washer	Rondelle	3,2	x	7	x	0,75
952 116	Scheibe	Washer	Rondelle	3,2	x	6	x	0,2
952 117	Scheibe	Washer	Rondelle	3,2	x	6	x	0,3
952 163	Scheibe	Washer	Rondelle	4,1	x	7	x	0,1
952 173	Scheibe	Washer	Rondelle	4,2	x	16	x	2
952 178	Scheibe	Washer	Rondelle	4,2	x	7,5	x	0,1
952 179	Scheibe	Washer	Rondelle	4,2	x	7,5	x	0,2
952 184	Scheibe	Washer	Rondelle	4,2	x	9	x	0,3
952 210	Scheibe	Washer	Rondelle	5,1	x	7	x	0,2
952 255	Scheibe	Washer	Rondelle	5,1	x	10	x	0,1
952 256	Scheibe	Washer	Rondelle	5,1	x	10	x	0,2
952 257	Scheibe	Washer	Rondelle	5,1	x	10	x	0,3
952 261	Scheibe	Washer	Rondelle	5,2	x	14	x	0,2
952 264	Scheibe	Washer	Rondelle	5,2	x	8	x	0,2
952 268	Scheibe	Washer	Rondelle	5,2	x	8	x	0,1
952 326	Scheibe	Washer	Rondelle	9,2	x	15,2	x	0,1

Teil Part Pièce	Bezeichnung	Designation	Désignation						
952 329	Scheibe	Washer	Rondelle	10,1	x	13	x	0,1
952 333	Scheibe	Washer	Rondelle	9,2	x	17	x	0,3
952 370	Scheibe	Washer	Rondelle	15,2	x	20,4	x	0,2
952 492	Scheibe	Washer	Rondelle	4,2	x	8,5	x	0,4
952 726	Scheibe	Washer	Rondelle	2,6	x	6,5	x	0,5
952 758	Scheibe	Washer	Rondelle	3,2	x	6	x	0,1
952 794	Scheibe	Washer	Rondelle	4,3	x	7,5	x	0,5
952 816	Scheibe	Washer	Rondelle	5,2	x	8	x	0,3
952 970	Scheibe	Washer	Rondelle	2,8	x	5	x	0,3
953 007	Federscheibe	Spring washer	Rondelle cambrée	3,2	x	8	x	0,1
953 008	Federscheibe	Spring washer	Rondelle cambrée	3,2	x	6	x	0,2
953 010	Federscheibe	Spring washer	Rondelle cambrée	3,2	x	4,8	x	0,1
953 011	Federscheibe	Spring washer	Rondelle cambrée	3,2	x	6	x	0,2
953 057	Federscheibe	Spring washer	Rondelle cambrée	2,8	x	5,5	x	0,2
953 059	Federscheibe	Spring washer	Rondelle cambrée	8,5	x	12	x	0,1
953 071	Federscheibe	Spring washer	Rondelle cambrée	3,2	x	6,5	x	0,1
953 073	Federscheibe	Spring washer	Rondelle cambrée	2,8	x	7	x	0,2
956 053	Linsenzyl.schraube	Lens cyl. screw	Vis tête-lent.cyl.	M 3	x	5		
956 231	Linsenzyl.schraube	Lens cyl. screw	Vis tête-lent.cyl.	M 3,5	x	4,8		
956 539	Zyl.paßschraube	Cylindric screw	Vis cylindrique	M 3	x	10		
956 594	Führungsschraube	Screw	Vis	M 3	x	8		

Teil Part Pièce	Bezeichnung	Designation	Désignation				
960 177	Zylinderschraube	Cylindric screw	Vis cylindrique	M	3	x	4
960 392	Zylinderschraube	Cylindric screw	Vis cylindrique	M	2	x	10
960 480	Zylinderschraube	Cylindric screw	Vis cylindrique	M	2,6	x	4
960 508	Zylinderschraube	Clyindric screw	Vis cylindrique	M	3	x	3
960 511	Zylinderschraube	Cylindric screw	Vis cylindrique	M	3	x	4
960 514	Zylinderschraube	Cylindric screw	Vis cylindrique	M	3	x	5
960 517	Zylinderschraube	Cylindric screw	Vis cylindrique	M	3	x	6
960 520	Zylinderschraube	Cylindric screw	Vis cylindrique	M	3	x	8
960 523	Zylinderschraube	Cylindric screw	Vis cylindrique	M	3	x	10
960 587	Zylinderschraube	Cylindric screw	Vis cylindrique	M	4	x	6
960 589	Zylinderschraube	Cylindric screw	Vis cylindrique	M	4	x	8
960 766	Zylinderschraube	Cylindric screw	Vis cylindrique	M	5	x	45
960 955	Linsenzyl.schraube	Lens cyl.screw	Vis tête-lent.cyl.	M	3	x	20
961 901	Zyl.blechschraube	Special cyl.screw	Vis cyl.spéciales	B	2,2	x	6,5
962 096	Gewindestift	Grub screw	Goupille filetée	M	3	x	4
962 165	Gewindestift	Grub screw	Goupille filetée	M	3	x	5
962 237	Gewindestift	Grub screw	Goupille filetée	M	2	x	4
962 238	Gewindestift	Grub screw	Goupille filetée	M	2	x	4
962 260	Gewindestift	Grub screw	Goupille filetée	M	2,6	x	8
962 284	Gewindestift	Grub screw	Goupille filetée	M	3	x	8
962 366	Vierkantmutter	Square nut	Écrou à 4 pans	M	2		
962 535	Sechskantmutter	Hexagonal nut	Écrou à six pans	M	3		

Part Pièce	Bezeichnung	Designation	Désignation								
967 214	Zahnscheibe	Lock washer	Rondelle dentée	A	4,3						
967 306	Seeger-Dreieck-R.	Triangular clip	Clip triangulaire	D	2,5						
967 323	Sicherungsscheibe	Washer	Rondelle		1,5						
967 324	Sicherungsscheibe	Washer	Rondelle		1,9						
967 325	Sicherungsscheibe	Washer	Rondelle		2,3						
967 326	Sicherungsscheibe	Washer	Rondelle		3,2						
967 327	Sicherungsscheibe	Washer	Rondelle		4						
967 349	Sicherungsring	Washer	Rondelle		9	x	1				
967 405	Sicherungsring	Washer	Rondelle		2	x	3,5	x	5		
967 408	Sicherungsring	Washer	Rondelle		2,5	x	4,2	x	5,4	x	0,6
967 410	Sicherungsring	Washer	Rondelle		3	x	5,1	x	6,24	x	0,6
967 413	Sicherungsring	Washer	Rondelle		3,5						
967 415	Sicherungsring	Washer	Rondelle		4	x	6,6	x	8,35	x	0,8
967 419	Sicherungsring	Washer	Rondelle		5	x	8	x	9,7	x	0,8
967 430	Sicherungsring	Washer	Rondelle		8						