

Service  
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# Service Manual

12 V 

## GENERAL

The CDS-PS2 and CDS-36PS3 are updated versions of the CDS-36PS. The difference between the -PS2 and -PS3 versions exists of the shape of the EJECT, FF and REW levers.

## TECHNICAL DATA

Operating voltage	:	10.5 - 16VDC (13.2VDC nom.)
Tape speed	:	4.76 cm/s ( $\pm 2\%$ )
Number of tracks	:	2 x 2
Wow and Flutter	:	$\leq 0.35\%$ RMS (10-45°C)
S/N ratio	:	$\geq 46$ dB
Crosstalk suppression (track 2-3)	:	$\geq 40$ dB
Channel separation (track 1-2/3-4)	:	$\geq 30$ dB
Fast winding time	:	$\leq 165$ sec (C-60)



# PHILIPS

## MAINTENANCE

The tape deck mechanism requires periodic cleaning.

### Cleaning with alcohol or spirit

- Playback head pos.82
- Capstans/flywheels pos.92/94 and pressure rollers pos.62/84
- Belts pos.63/93 and pulleys pos.64/71

## ADJUSTMENTS AND CHECKS

Equipment required:

- Universal test cassette SBC419
  - 4822 397 30069
- Universal test cassette SBC420
  - 4822 397 30071
- Friction test cassette 811/CTM
  - 4822 395 30054
- Spring scale 50-500g
  - 4822 395 80028
- Wow & Flutter meter
- AC mV meters

### 1. Azimuth (fig.1)

Azimuth alignment should be carried out on a COMPLETE car radio set; proceed as follows:

- Connect the millivolt-meters to the loud-speaker outputs.
- Insert test cassette SBC419 or SBC420, select NOR (normal play) and play the 10 kHz signal.
- Adjust Azimuth screw "A" for equal and maximum output voltage reading for both right and left channel.
- Switch to REV (reverse play) and play the 10 kHz signal.
- Repeat the adjustment with screw "B".
- Check the Azimuth again during NOR (normal) play.
- Repeat the procedure if necessary.

### 2. Roller pressure

The pressure on the capstan should be 250 -350 grammes (2.5 - 3.5 N).

This pressure is measured as follows (in NOR and REV play):

- Select NOR play mode.
- Push the pressure roller pos. 84 back at the shown point by means of the spring scale.
- At the point where the pressure roller and capstan (of flywheel pos.92) just disengage the spring scale should be read.

- If the pressure is incorrect, replace spring pos.86.
- Select REV play mode.
- Push the pressure roller pos.62 back at the shown point by means of the spring scale.
- At the point where the pressure roller and capstan (of flywheel pos.94) just disengage the spring scale should be read.
- If the pressure is incorrect, replace spring pos.66.

### 3. Friction clutch (reel assy) 55

- Insert friction test cassette 811/CTM (NOR and REV).
- Play mode take-up torque should be 35 - 75 g/cm.
- Fast wind torque should be 40 - 150 g/cm.
- If the torque is incorrect, replace clutch pos.55.

### 4. Wow & Flutter / tape speed (fig.1)

This check should be carried out on a COMPLETE car radio set; proceed as follows:

- Connect the wow & flutter meter to the LS outputs.
- Insert test cassette SBC419 or SBC420 and play the 3,150 Hz signal.
- The wow & flutter value should be  $\leq 0.35\%$ .
- The tape speed should be 4.76 cm/s ( $\pm 2\%$ ).
- The tape speed can be adjusted with screw "C".

In case of an excessive wow & flutter value, check the following parts for correct functioning:

- Motor pos.56
- Pressure rollers pos.62 and 84
- Belts pos.63 and 93
- Flywheels pos.92 and 94
- Pulley 71

## DISASSEMBLY PROCEDURE

Refer to figures 2-5 for the procedure.

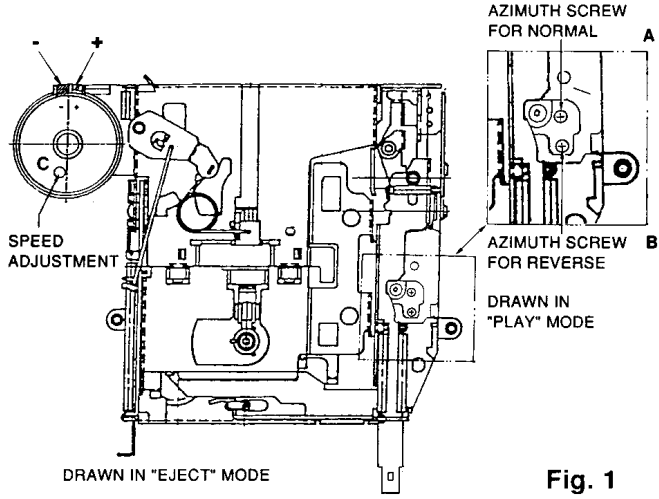


Fig. 1

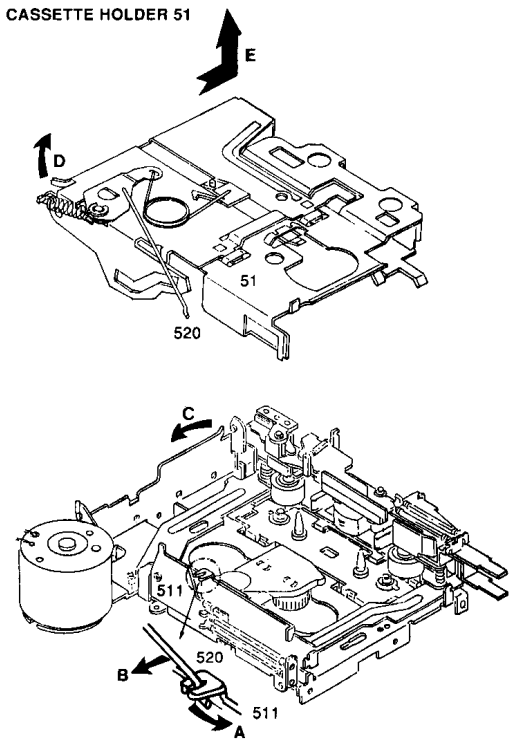


Fig. 2

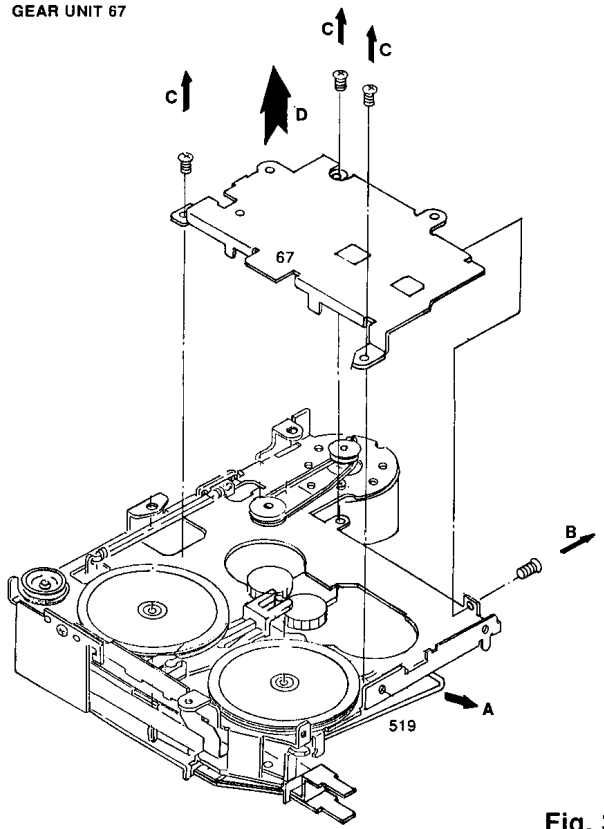


Fig. 3

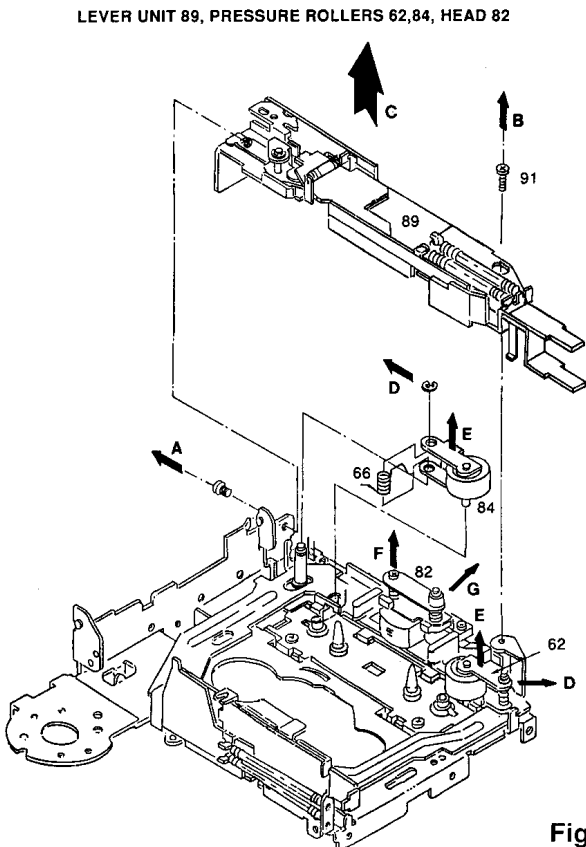


Fig. 4

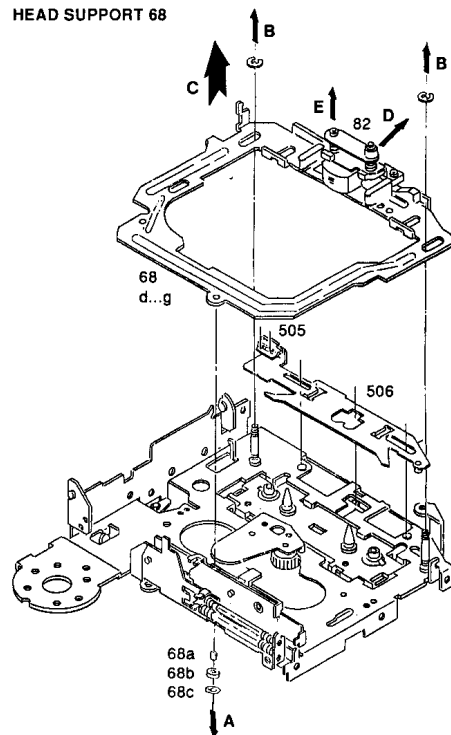
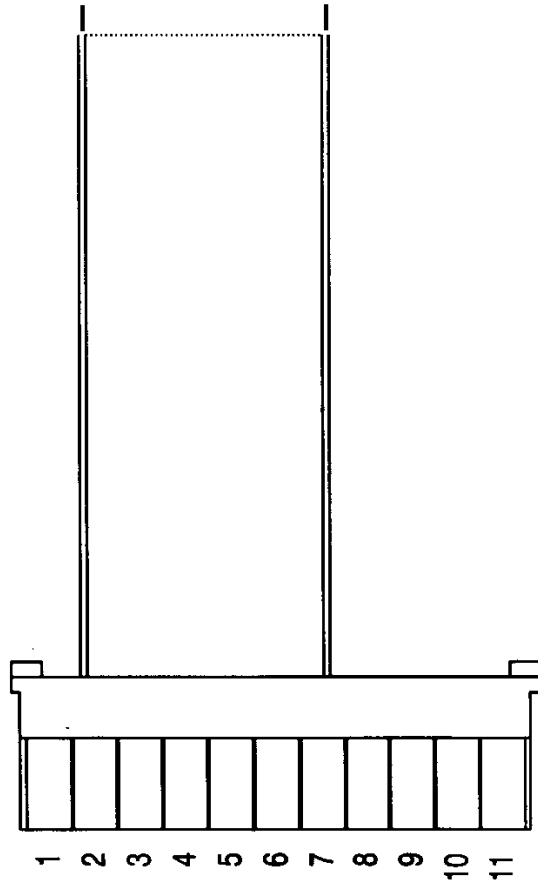


Fig. 5

**CONNECTIONS**

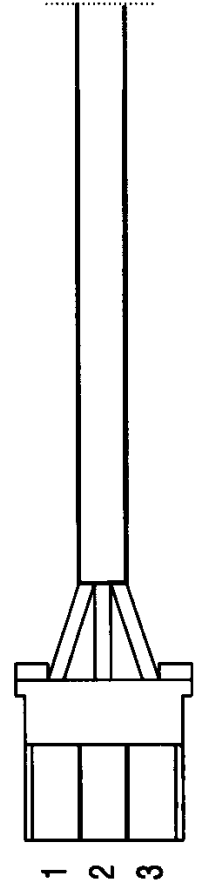
**11 POLE CONNECTOR**

Pin	Signal
1	N.C.
2	TRACK SWITCH
3	TR.SW.COM / GND
4	MUTE SWITCH A
5	PLAY SWITCH
6	MOTOR +
7	MUTE SWITCH B
8	N.C.
9	N.C.
10	N.C.
11	N.C.



**3 POLE HEAD CONNECTOR**

Pin	Signal
1	COMMON
2	LEFT
3	RIGHT



## MECHANICAL PARTS

	4822 691 10456	Deck CDS-36PS2 complete	73	4822 502 14414	Screw M2x4
	4822 691 10562	Deck CDS-36PS3 complete	76	4822 532 21456	FF roller
52	4822 492 63888	Tumble spring	77	4822 530 80701	Ret. ring 1.6
53	4822 403 53313	Tape hooker / cassette guide	78	4822 492 52301	Adjuster arm spring A
55	4822 535 10456	Reel spindle assy	79	4822 492 52302	Adjuster arm spring B
57	4822 522 10607	Tape unit gear arm assy	81	4822 530 70628	Plate 2.1x3.2xT0.25
58	4822 502 14412	Screw M1.7x6	84	4822 528 11083	Roller arm assy F
61	4822 530 80699	Ret. ring 1.5	86	4822 492 11378	Roller arm spring F
62	4822 528 11082	Roller arm assy R	89a	4822 402 10661	Change lever bracket base
63	4822 358 31263	Sub belt	89b	4822 528 11088	Program roller
64	4822 522 33229	Pulley gear			
66	4822 492 11379	Roller arm spring R	89c	4822 492 11374	FF/REW lever spring
67a	4822 532 12754	Plate 1.5x3.2xT0.2	89d	4822 492 11375	Lock lever spring
67d	4822 528 11085	Detector cam assy	89e	4822 492 11377	Program arm spring
67e	4822 492 11383	Back tension spring	91	4822 502 14413	Screw M2x4
			92	4822 528 11081	Flywheel assy F
67f	4822 464 10255	Reel base assy			
67g	4822 522 10602	Idler gear	93	4822 358 31181	Main belt
67h	4822 522 10603	Reduction gear A	94	4822 528 11084	Flywheel assy R
67i	4822 522 10604	Reduction gear B	95	4822 532 12753	Plate 1.5x3.2xT0.25
67j	4822 402 10662	Ratchet	97	4822 532 12755	Plate 2.1x5.5xT0.05
			98	4822 532 12756	Ret. ring 2.0
67k	4822 402 10663	Sensor arm			
67l	4822 522 10605	Selector gear			
67m	4822 402 10665	Gear lock arm			
67n	4822 522 10606	Detector gear			
67o	4822 532 12752	Collar (selection gear)			
67p	4822 492 11376	Gear lock arm spring			
67q	4822 492 11381	Ratchet spring			
67r	4822 492 11382	Push spring			
68a	4822 528 11086	HP roller B			
68b	4822 528 11087	HP roller A	90	4822 320 11823	3-pole wire assy
			100	4822 320 11822	11-pole wire assy
68c/99	4822 532 12757	Ret. ring 2.5			
68e	4822 463 11127	Tape guide			
68f	4822 402 10664	Adjuster link			
71	4822 528 81551	Idle pulley A			
72	4822 532 51952	Plate 1.2x3.0xT0.25			

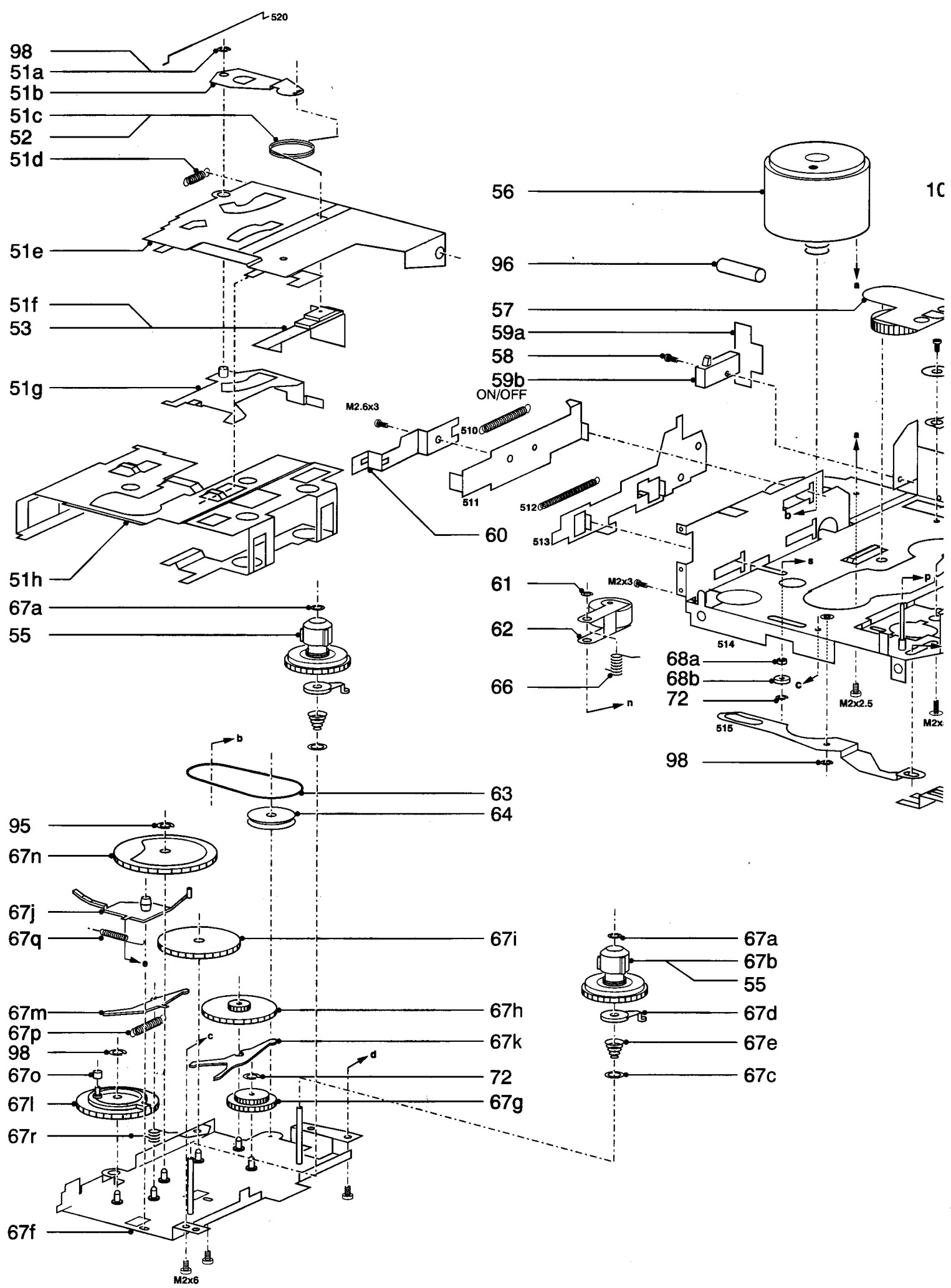
## ELECTRICAL PARTS

56	4822 361 10948	Motor assy
59b	4822 277 21603	Power switch
69b	4822 276 13519	Mute switch
82	4822 249 30211	Head assy
88a	4822 277 21743	Slide switch
90	4822 320 11823	3-pole wire assy
100	4822 320 11822	11-pole wire assy

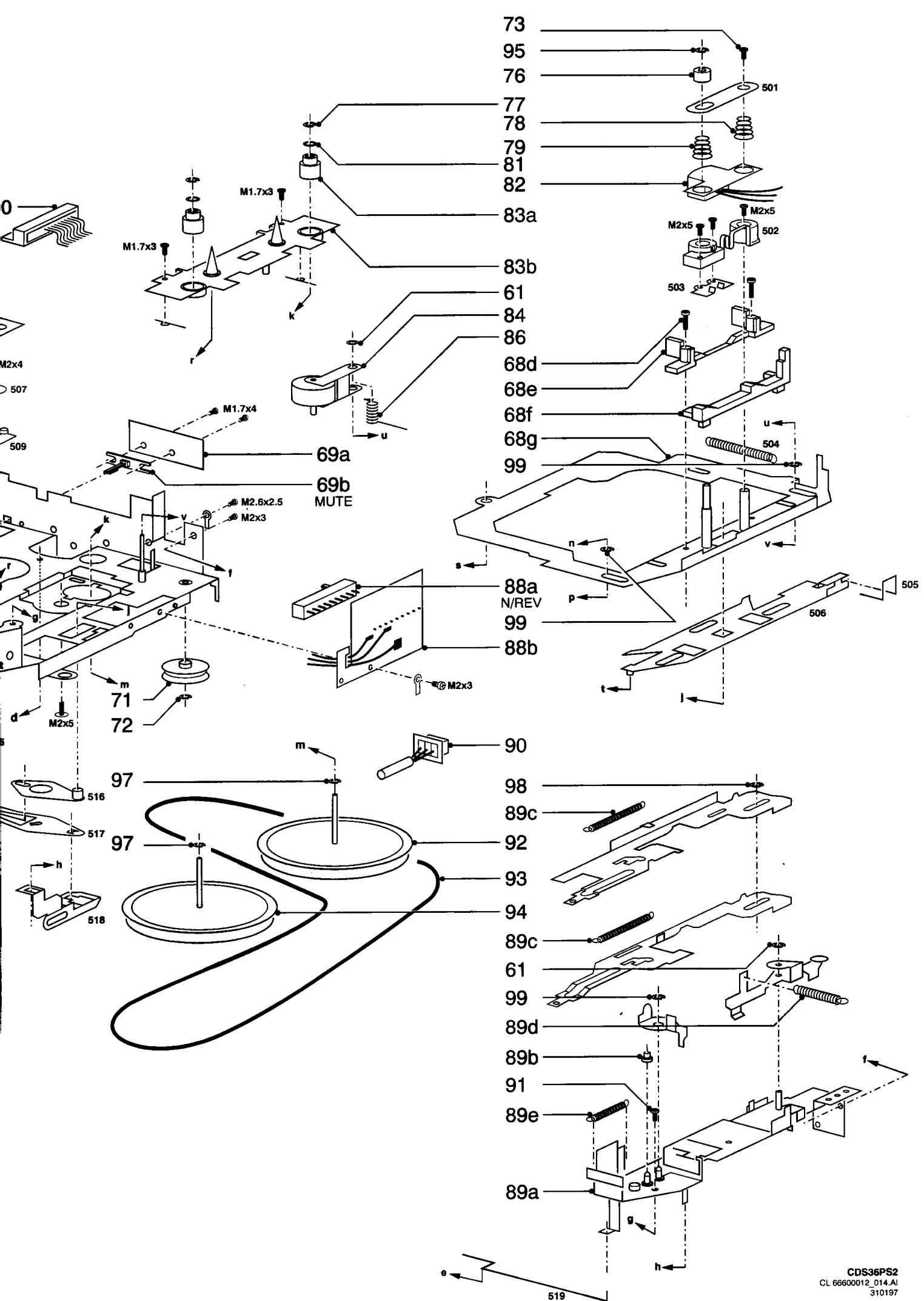
## ACCESSORIES

4822 395 30054	811/CTM
4822 397 30069	SBC419
4822 397 30071	SBC420
4822 389 20035	Drop-in cassette

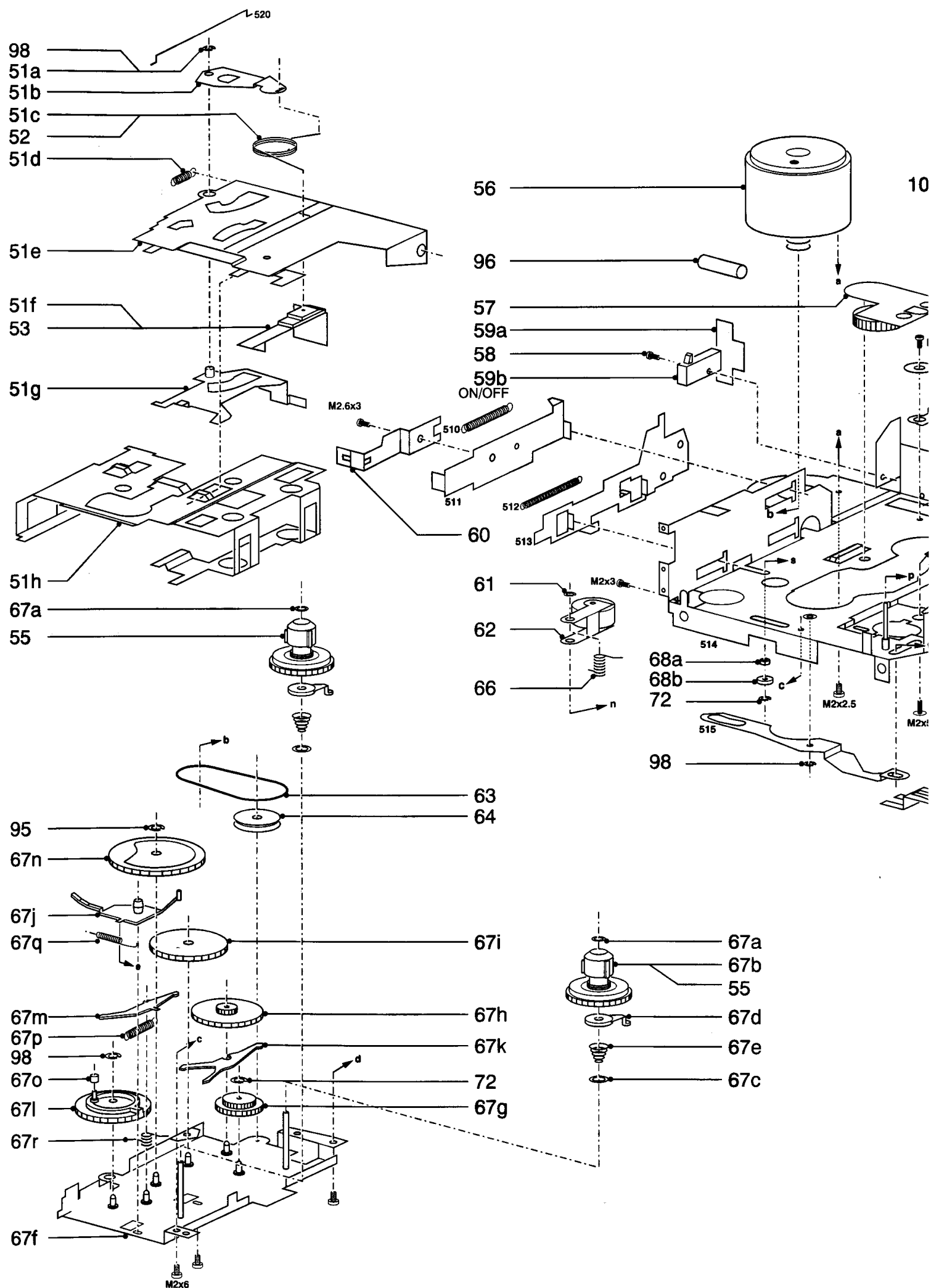
EXPLODED VIEW CDS-36PS2



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EXPLODED VIEW CDS-36PS3







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67j	4822 402 10662	Ratchet	97	4822 532 12755	Plate 2.1x5.5xT0.05
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67k	4822 402 10663	Sensor arm			
67l	4822 522 10605	Selector gear			
67m	4822 402 10665	Gear lock arm			
67n	4822 522 10606	Detector gear			
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67p	4822 492 11376	Gear lock arm spring			
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67r	4822 492 11382	Push spring			
68a	4822 528 11086	HP roller B			
68b	4822 528 11087	HP roller A	90	4822 320 11823	3-pole wire assy
			100	4822 320 11822	11-pole wire assy
68c/99	4822 532 12757	Ret. ring 2.5			
68e	4822 463 11127	Tape guide			
68f	4822 402 10664	Adjuster link		4822 395 30054	811/CTM
71	4822 528 81551	Idle pulley A		4822 397 30069	SBC419
72	4822 532 51952	Plate 1.2x3.0xT0.25		4822 397 30071	SBC420
				4822 389 20035	Drop-in cassette

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69b	4822 276 13519	Mute switch
82	4822 249 30211	Head assy
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