ORDER NO. SD8010-1791

Service Manual

System Tonearm

EPA-250

[X]

Arm Unit

EPA-A250

[X]

The EPA-250 is different from conventional tonearms in that it consists of a separate arm unit (EPA-A250) which is mounted on a special arm base (EPA-B500).

SPECIFICATIONS (Specifications are subject to change without notice further improvement.)

Arm unit section (EPA-A250)

Type:	"S" shaped universal type interchangeable arm unit with dynamic damping system
Effective length:	250 mm
Rear end length:	78 mm ~ 93 mm from the tonearm fulcrum (max. 102 mm using auxiliary weight)
Overhang:	15 mm
Lateral tracking error:	+1°6′ at the inner groove, 30 cm record +2°6′ at the outer groove, 30 cm record
Effective arm mass:	14 g (without cartridge)

Applicable cartridge weight	Applicable cartridge compliance (dynamic, 100 Hz)
6 ~ 8 g	8 ~ 14 x 10^{-6} cm/dyne*
4 ~ 6 g (with shell weight (2 g) SFCZB30505)	8 ~ 14 x 10^{-6} cm/dyne (with shell weight (2 g) SFCZB30505)
3 ~ 4 g (with shell weight (3 g) SFPZB3501)	8 ~ 14 x 10^{-6} cm/dyne (with shell weight (3 g) SFPZB3501)
10.5 ~ 12.5 g (with auxiliary weight)	6 ~ 12 x 10^{-6} cm/dyne (with auxiliary weight)

Headshell weight:	7.5 g
Applicable stylus pressure:	0 ~ 2g
Resonance peak:	Below 8 dB
Cartridge attachment:	12.7 mm (1/2 inch) mounting space
Headshell terminal lug:	1.2ϕ

* The compliance values of Technics cartridges are for dynamic compliance. When a static compliance value is given, divide in half to obtain the approximate dynamic compliance value.

Arm base section (EPA-B500)

Type:	Interchangeable arm unit type
Pivot construction:	Gimbal suspension
Arm height range:	42 mm ~ 62 mm from the surface of the base to the arm pipe (Helicoid portion 20 mm)
Friction:	Under 7 mg (lateral, vertical)
DC resistance of phono cable:	39.5mΩ/m
Capacitance of phono cable:	41.2pF/m
Diameter of arm base mounting hole:	ϕ 62 mm

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

EPA-250/EPA-A250

TECHNISCHE DATEN (Anderungen der technischen Daten vorbehalten.)

Tonarme inheit (EPA-A250)

Typ: Auswechselbare Universal-Typ Tonarmeinheit, S-förmig, mit dynamischem Dämpfungssystem
Effektive Länge: 250 mm
Länge de Tonarmrückendes: 78 mm ~ 93 mm vom Tonarm-Drehpunkt (max. 102 mm mit Zusatz-Gegengewicht)
Überhang: 15 mm
Seitlicher Spurfehlwinkel: +1°6′ (Auslaufrille einer 30 cm-Schallplatte;) +2°6′ (Einlaufrille einer 30 cm-Schallplatte)
Effektive Tonarmmasse: 14 g (ohne Tonabnehmer)

Zulässige Tonabnehmer-Gewichtbereich	Zulässiger Tonabnehmer-Nachguebigkeit (dynamisch, 100 Hz)
6 ~ 8 g	8 ~ 14 x 10^{-6} cm/dyn*
4 ~ 6 g (mit Tonarmkopf-Zusatzgewicht (2 g) SFCZB30505)	8 ~ 14 x 10^{-6} cm/dyn (mit Tonarmkopf-Zusatzgewicht (2 g) SFCZB30505)
3 ~ 4 g (mit Tonarmkopf-Zusatzgewicht (3 g) SFPZB3501)	8 ~ 14 x 10^{-6} cm/dyn (mit Tonarmkopf-Zusatzgewicht (3 g) SFPZB3501)
10.5 ~ 12.5 g (mit Zusatz-Gegengewicht)	6 ~ 12 x 10^{-6} cm/dyn (mit Zusatz-Gegengewicht)

Tonarmkopfgewicht: 7.5 g
Auflagekraft-Einstellbereich: 0 ~ 2 g
Resonanzspitze: Unter 8 dB
Tonabnehmer-Montage: 12.7 mm Montageabstand
Tonarmkopf-Steckerstifte: ϕ 1.2 mm

* Die Nachgiebigkeit der Technics Tonabnehmer bezieht sich auf die dynamische Nachgiebigkeit.
In Fällen, wo die Nachgiebigkeit mit der statischen Nachgiebigkeit ausgedrückt wird, beträgt die dynamische Nachgiebigkeit ungefähr die Hälfte dieses Wertes.

Tonarmsockel (EPA-B500)

Typ: Tonarmsockel mit Tonarmeinheit-Wechselmöglichkeit
Drehlager-Konstruktion: Kardan-Aufhängung
Tonarmhöhe-Einstellbereich: 42 ~ 62 mm (Von der Zargenoberfläche bis zur Tonarmröhre) (Schneckenartiger Teil : 20 mm)
Lagerreibung: Weniger als 7 mg (Horizontal, Vertikal)
Gleichstrom-Widerstand des Phono-Kabels: 39.5mΩ/m
Kapazität des Phono-Kabels: 41.5pF/m
Durchmesser des Tonarmsockel-Montagelochs: ϕ 62 mm

SPECIFIÇATIONS (Spécifications susceptibles de modifications sans avertissement.)

Dispositif du bras (EPA-A250)

Type: Dispositif de bras interchangeable de type universel en forme de "S" avec système d'amortissement électrodynamique.
Longueur effective: 250 mm
Longueur de l'extrémlté postérleure: 78 mm ~ 93 mm à partir du point d'appui au bras de lecture. (Max. de 102 mm en utilisant un poids auxiliaire.)
Porte-à-faux: 15 mm
Erreur d'alignement latéral: + 1°6′ au sillon intérieur d'un disque de 30 cm + 2°6′ au sillon extérieur d'un disque de 30 cm
Masse réelle du bras: 14 g (sans la cellule pick-up)

Poids utilisable de la cellule pick-up	Elasticite utilisable de la cellule pick-up (dynamique, 100 Hz)
6 ~ 8 g	8 ~ 14 x 10^{-6} cm/dyne*
4 ~ 6 g (avec contrepoids de la cellule (2 g) SFCZB30505)	8 ~ 14 x 10^{-6} cm/dyne (avec contrepoids de la cellule (2 g) SFCZB30505)
3 ~ 4 g (avec contrepoids de la cellule (3 g) SFPZB3501)	8 ~ 14 x 10^{-6} cm/dyne (avec contrepoids de la cellule (3 g) SFPZB3501)
10.5 ~ 12.5 g (avec contrepoids auxiliaire)	6 ~ 12 x 10^{-6} cm/dyne (avec contrepoids auxiliaire)

Poids de la coque porte-cellule: 7.5 g
Force verticald d'appui applicable: 0 ~ 2 g
Crête de résonance: Au-dessous de 8 dB
Montage de la cellule pick-up: Orifice de montage de 12.7 mm (1/2 pouce)—JIS (Normes industrielles Japonaises.)

Plèce polaire de la coque porte-cellule: ϕ 1.2

* Les valeure d'èlasticité acoustique des cellules pick-up Technics sont pour une compliancé électro-dyamique. Lorsqu' une valeur de complíance statique est donnée, la diviser par deux pour obtenir une valeur de compliance électro-dynamique approximative.

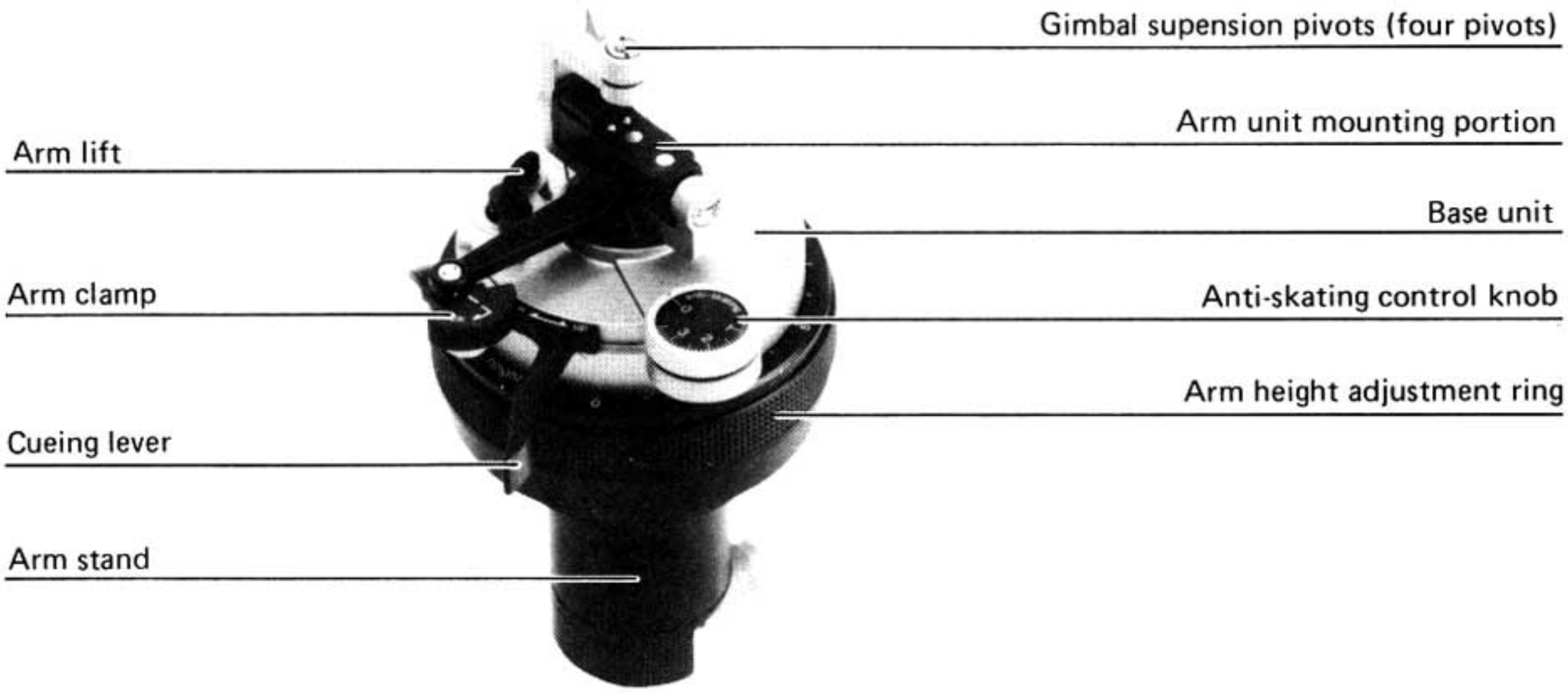
Socle de bras (EPA-B500)

Type:	Type de dispositif de bras interchangeable.
Structure du pivot:	Suspension à la cardan de 42 mm ~ 62 mm, de la surface du socle au tube du bras. (Section hélicoidale de 20 mm)
Frottement:	Au-dessous de 7 mg (latéral, vertical)
Résistance C.C. du câble pick-up:	39.5mΩ/m
Capacitance du câble pick-up:	41.5pF/m
Diamétre de l'orifice de montage du socle du bras:	ϕ 62 mm

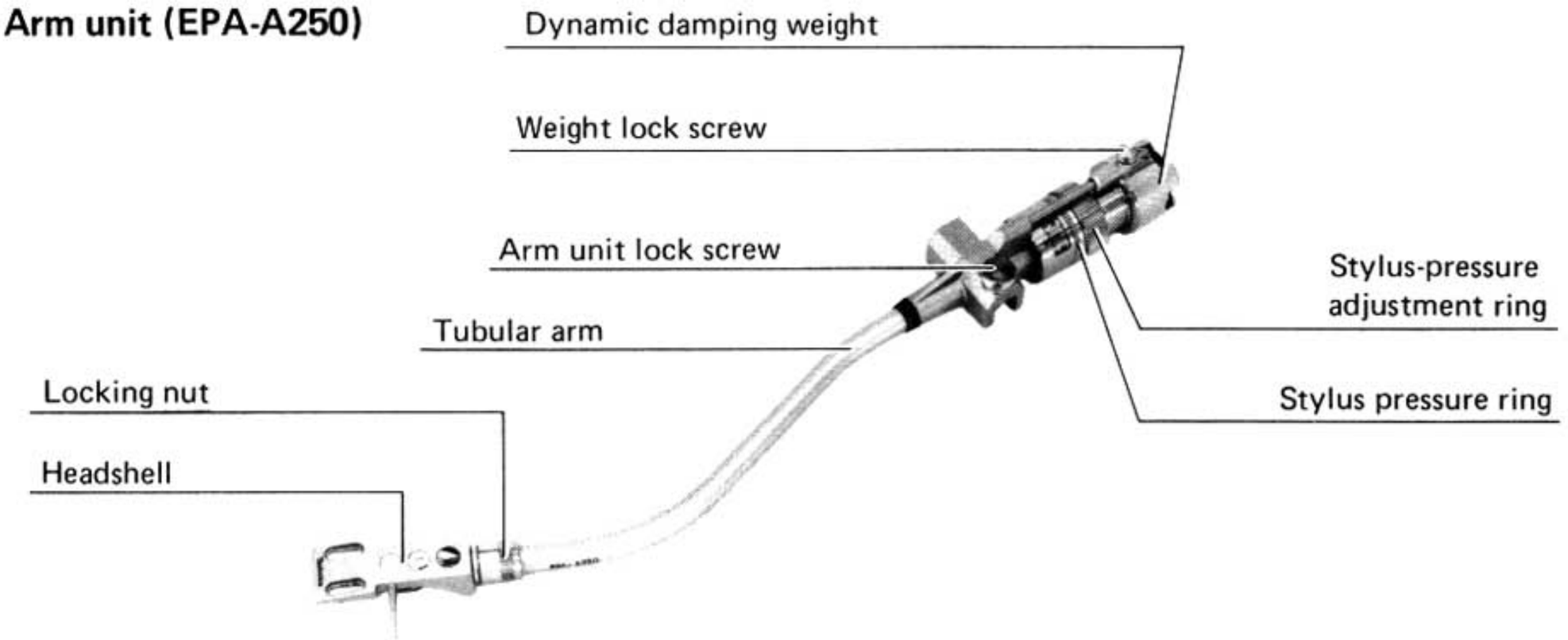
■ LOCATION OF CONTROLS

System tonearm (EPA-250)

- **Arm base (EPA-B500)**



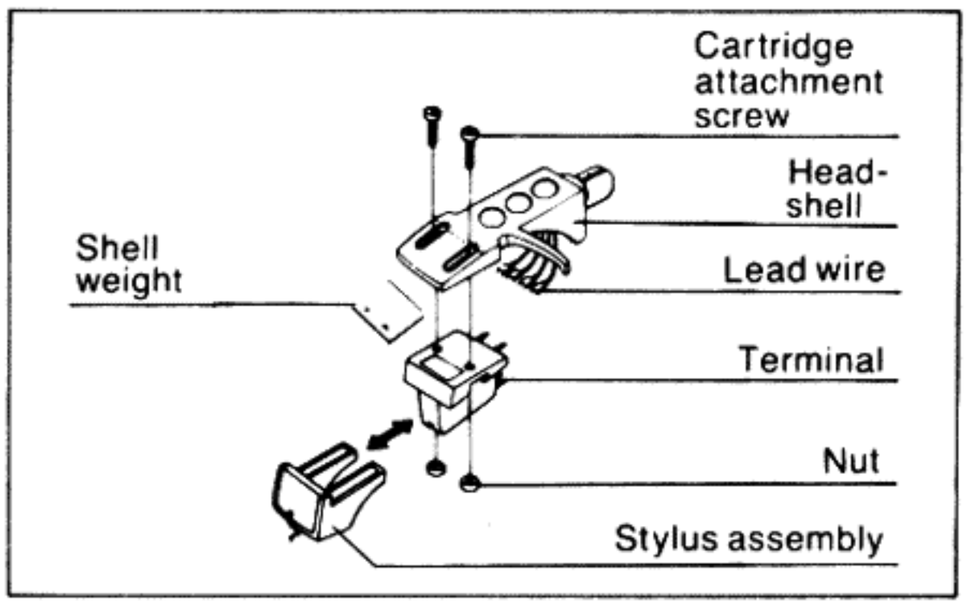
- **Arm unit (EPA-A250)**



■ ATTACHMENT OF CARTRIDGE

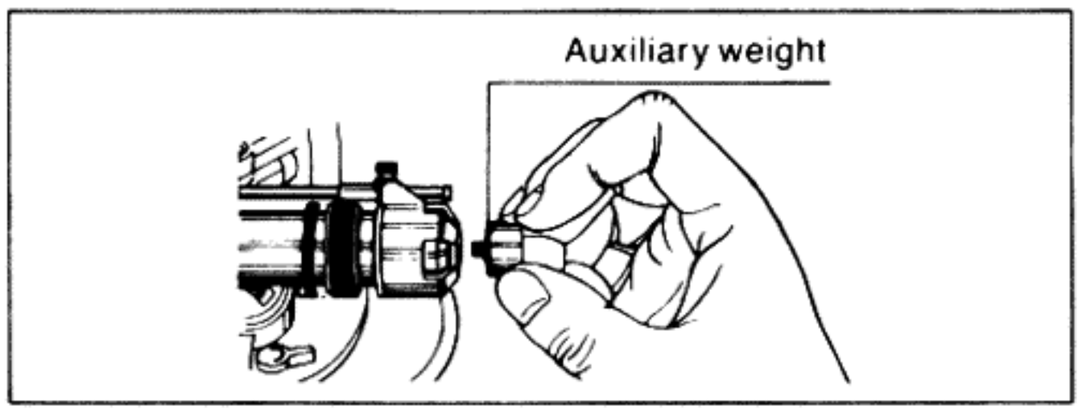
Note:
These instructions are for attachment of a Technics EPC-205C type cartridge.
If another cartridge is to be used please attach it in accordance with the cartridge's instruction manual.

1. Connect the lead wires to the cartridge. The cartridge terminals are differentiated by color, and the leads should be connected accordingly.
   Red→(R) + (right channel + terminal)
   Green→(R) – (right channel ground terminal)
   White→(L) + (left channel + terminal)
   Blue→(L) – (left channel ground terminal)
2. Use the supplied screws and nuts to temporarily secure the cartridge to the headshell.
   Note:
   To prevent damage to the stylus assembly, it is recommended that it be removed from the cartridge during installation.



■ AUXILIARY WEIGHT

The range of cartridge weights suitable for mounting on this arm is 6 ~ 8 g. However, if you attach the accessory auxiliary weight to the rear end of the arm unit, you can use cartridges weighing from 10.5 g to 12.5 g.
Notes:
If you attach the accessory auxiliary weight, the stylus pressure indicated on the stylus pressure scale ring will be less than the actual stylus pressure.
Refer to the chart for conversion to actual stylus pressure value.
It may be necessary to remove the dust cover if the auxiliary weight bumps against it during play.



• Stylus pressure conversion chart when using auxiliary weight

Actual stylus pressure	0.2	0.4	0.6	0.8	1.0	1.2	1.25	1.4	1.5	1.6	1.75	1.8	2.0
Scale ring indication	0.18	0.35	0.55	0.7	0.9	1.1	1.15	1.25	1.35	1.45	1.6	1.65	1.8

■ SUITABLE CARTRIDGE WEIGHT AND COMPLIANCE RELATIONSHIPS

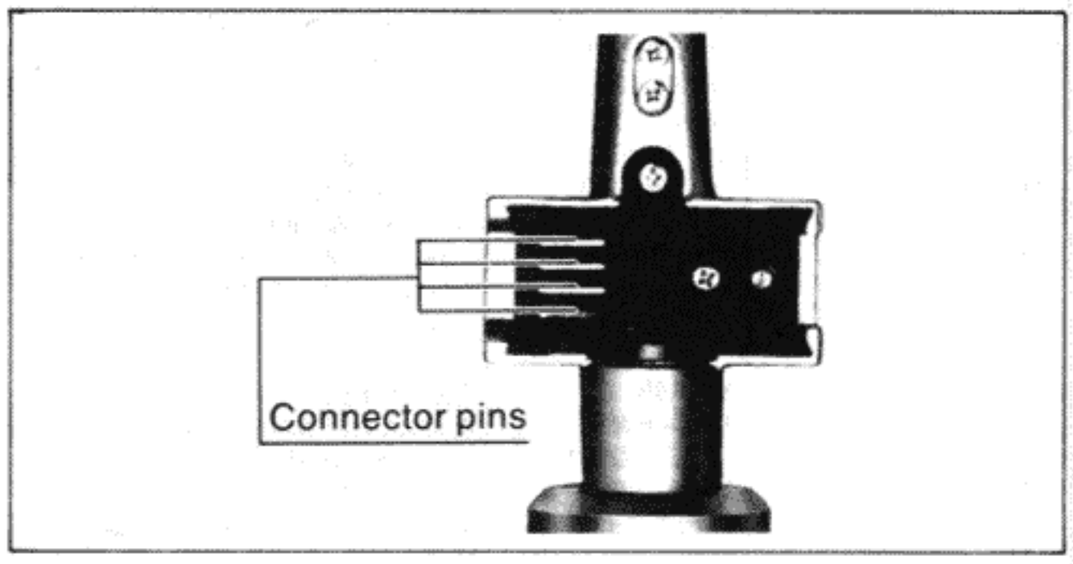
Using the built-in weight, cartridges weighing from 6 g to 8 g can be used.
Using the auxiliary weight or shell weights (supplied) permits cartridges in the weight ranges shown in the chart to be used.

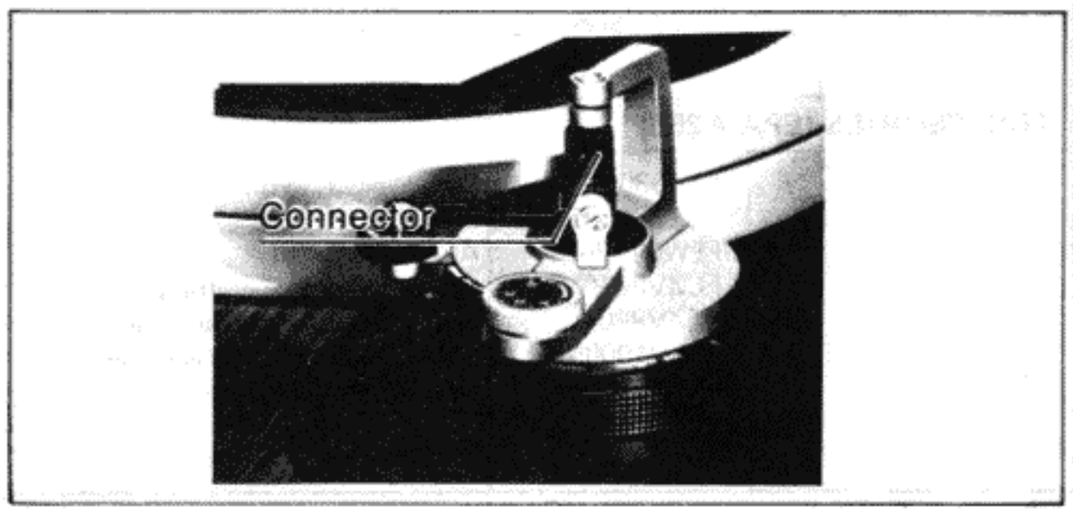
Applicable cartridge weight	**Applicable cartridge compliance (dynamic, 100 Hz)**
6 ~ 8 g	8 ~ 14 x 10^{-6} cm/dyne
4 ~ 6 g (with shell weight (2 g) SFCZB30505)	8 ~ 14 x 10^{-6} cm/dyne (with shell weight (2 g) SFCZB30505)
3 ~ 4 g (with shell weight (3 g) SFPZB3501)	8 ~ 14 x 10^{-6} cm/dyne (with shell weight (3 g) SFPZB3501)
10.5 ~ 12.5 g (with auxiliary weight)	6 ~ 12 x 10^{-6} cm/dyne (with auxiliary weight)

Note:
The headshell or auxiliary weight may be needed to balance the tonearm even when the cartridge weight is within the compatible range due to slight differences in cartridge weights and center of gravity.
One of the supplementary weights should also be used when the specified stylus pressure (tracking force) can not be applied without it.

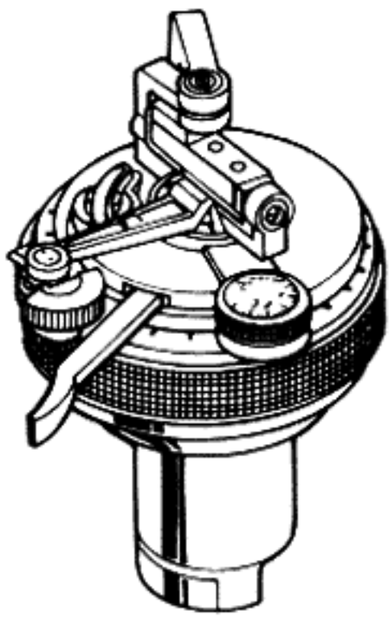
■ PRECAUTIONS

Do not twist or pull the arm unit's connector pins or the connectors on the arm base, as this could lead to misconnections.
Be particularly careful when installing or removing the arm unit.





■ EXPLODED VIEWS



(Arm base)

■ REPLACEMENT PARTS LIST

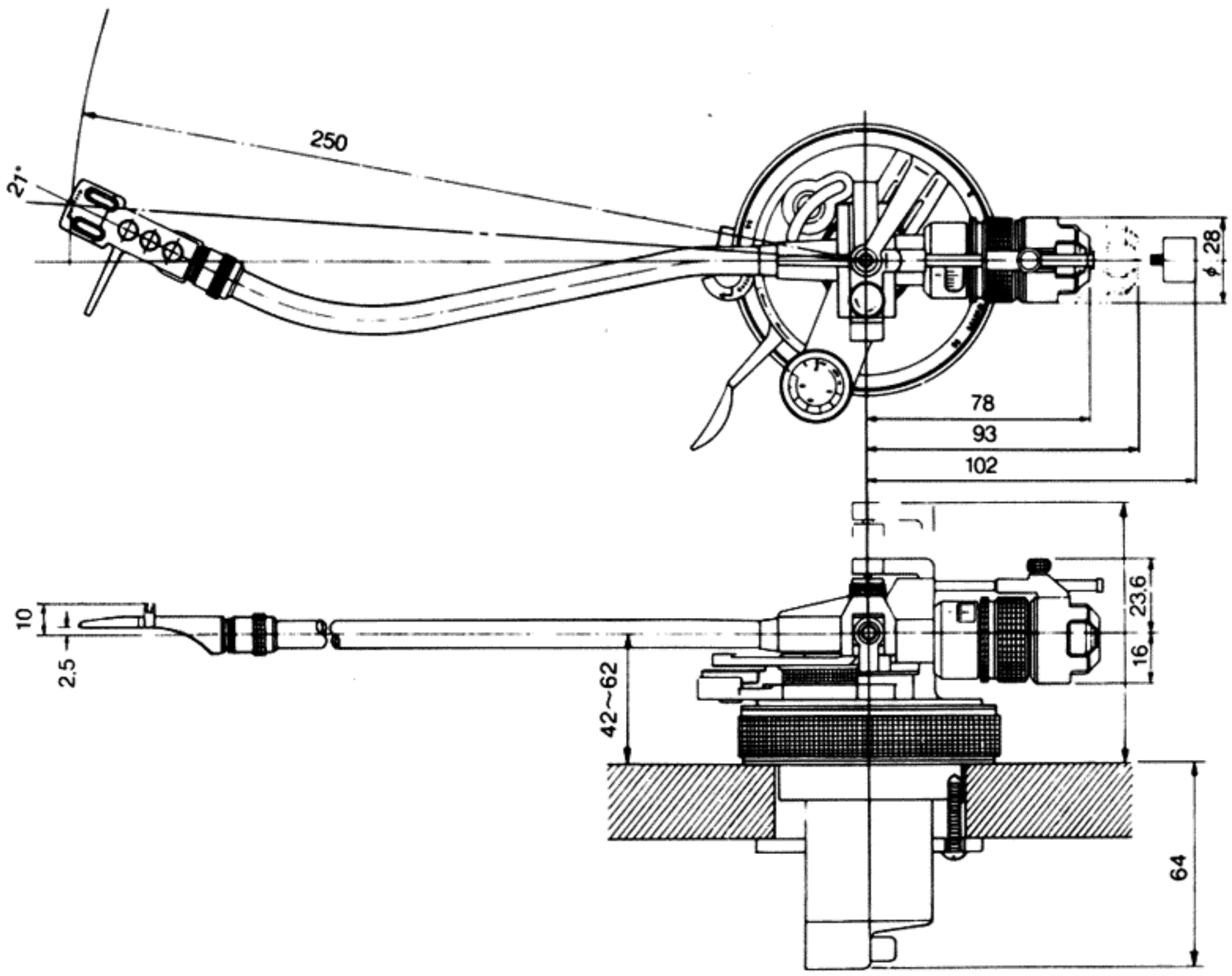
Note: 1. Part number are indicated on most mechanical parts.
Please use this part number for parts orders.

Ref. No.		Part No.	Part Name & Description
MECHANICAL PARTS			
1		SFPHH25001K	Head Shell
2		SFPAM25001R	Tone Arm Ass'y
3		XTN17+3FFN	Screw, ⊕ 1.7 + 3
4		SFPWB25002R	Ring, Stylus-pressure Adjustment Ring
5		SFPWB25006R	Weight, Dynamic Damping Weight
6		SFPEV50007	Screw, Weight Lock
7		SFPJK25003	Shaft
8		SFPZB50004	Phono Cable [EPA-250] only
ACCESSORIES (EPA-250)			
A1		SFPZB50025K	Mounting Position Gauge
A2		SFPZB50011	Template
A3		SFCFB20502	Driver
A4		SFSFB30001	Driver
A5		SFPZB3501	Shell Weight, (3 g)
A6		SFCZB30505	Shell Weight, (2 g)
A7		SFPWG17202	Auxiliary Weight
A8		XSN4+16BNS	Screw, ⊕ 4 +16 (for Arm base)
A9		XSN4+20BNS	Screw, ⊕ 4 +20 (for Arm base)
A10		XSN4+25BNS	Screw, ⊕ 4 +25 (for Arm base)
A11		XWA4B	Washer, ϕ4 (for Arm base)
A12		XWG4BW	Washer, ϕ4 (for Arm base)
A13		SFCZV30501	Screw, 8 mm (for cartridge)
A14		SFCZV8801	Screw, 6.5 mm (for cartridge)
A15		SFPEV10005	Screw, 19.5 mm (for cartridge)
A16		SFPEN9200	Nut, M2 (for cartridge)
A17		SFPZB50004	Phono Cable
ACCESSORIES (EPA-A250)			
A1		SFPZB3501	Shell Weight, (3 g)
A2		SFCZB30505	Shell Weight, (2 g)
A3		SFPWG17202	Auxiliary Weight
A4		SFCZV30501	Screw, 8 mm (for cartridge)
A5		SFCZV8801	Screw, 6.5 mm (for cartridge)
A6		SFPEV10005	Screw, 19.5 mm (for cartridge)
A7		SFPEN9200	Nut, M2 (for cartridge)

Ref. No.		Part No.	Part Name & Description
PACKING PARTS (EPA-250)			
P1		SFPCC25001	Carton
P2		SFPHN25001	Pad, Top
P3		SFPHN25002	Pad, Bottom
P4		SFHS107–01	Spacer, Weight
P5		SFPHB25002	Spacer, Weight
P6		SFYC50A60	Polyethylene Cover
P7		SFYF17A25	Polyethylene Bag
P8		SFYF07A10	Polyethylene Bag (for Driver)
P9		SFYF05A06	Polyethylene Bag (for Screw)
P10		SFPDS25004	Instruction Book
PACKING PARTS (EPA-A250)			
P1		SFPHH25003	Carton
P2		SFPHN50014	Pad, Left and Right Side
P3		SFPHM25001	Case, Arm Case
P4		SFPHM50002	Cover, Arm Case
P5		SFPHB25003	Ornament Plate
P6		SFPHB50003	Mirror
P7		SFPGM25002	Rubber Cushion, Arm Rest
P8		SFPHB25001	Spacer, Weight
P9		SFPHB25002	Spacer, Weight
P10		SFPHB50010	Clamper, Tone Arm
P11		SFPHB50009	Polyethylene Cover
P12		SFPHB50006	Polyethylene Cover
P13		SFYF15A50	Polyethylene Bag (for Arm Case)
P14		SFYF10A30	Polyethylene Bag (for Instruction Book)
P15		SFYF05A06	Polyethylene Bag (for Screw)
P16		SFPDS25008	Instruction Book

EPA-250/EPA-A250

■ Dimensions (mm)



Printed in Japan
80101200Ⓗ A.M.
81050500Ⓗ K.K.