

SHURE**MICROPHONES AND ELECTRONIC COMPONENTS**

AREA CODE 312/328-9000 • CABLE: SHUREMICRO

MODEL M91G

HI-TRACK

EASY-MOUNT

DATA SHEET

STEREO DYNETIC®

PHONOGRAPH CARTRIDGE

SPECIFICATIONS
M91, M92 AND M93 CARTRIDGE SERIES
N91, N92 AND N93 STYLI SERIES

Model Number	Diamond Stylus Replacement	Output Voltage (1,000 Hz. at 5 cm/sec.)	Stylus Color Grip	Tracking (Grams)
M91E	N91E Elliptical Side Contact Radius: .0002" (.005 mm) Frontal Radius: .0007" (.018 mm)	5.0 millivolts	Black	$\frac{3}{4}$ to 1 $\frac{1}{2}$
M92E	N92E Elliptical Side Contact Radius: .0002" (.005 mm) Frontal Radius: .0007" (.018 mm)	6.2 millivolts	Yellow	$\frac{3}{4}$ to 1 $\frac{1}{2}$
M93E	N93E Elliptical Side Contact Radius: .0004" (.010 mm) Frontal Radius: .0007" (.018 mm)	6.2 millivolts	Light Green	1 $\frac{1}{2}$ to 3
M91G	N91G Radius: .0006" (.015 mm)	5.0 millivolts	Gray	$\frac{3}{4}$ to 1 $\frac{1}{2}$
	N75-3,* Radius: .0025" (.064 mm)	6.2 millivolts	Green	1 $\frac{1}{2}$ to 3

* The N75-3 stylus may be used to reproduce the standard 78 rpm records. In this case, the amplifier should be set to "Monaural" or "A+B."

TRACKABILITY:

M91E and M91G at 1 gram stylus force

400 Hz. --- 20 cm/sec.
 1,000 Hz. --- 28 cm/sec.
 10,000 Hz. --- 18 cm/sec.

M92E at 1 gram stylus force

400 Hz. --- 18 cm/sec.
 1,000 Hz. --- 26 cm/sec.
 10,000 Hz. --- 15 cm/sec.

M93E at 2 gram stylus force

400 Hz. --- 18 cm/sec.
 1,000 Hz. --- 25 cm/sec.
 10,000 Hz. --- 13 cm/sec.

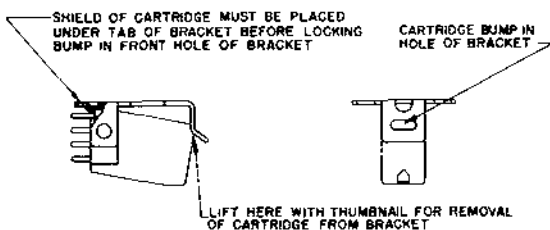
(Higher stylus forces within specified range improve trackability.)

FREQUENCY RESPONSE: From 20 to 20,000 Hz.**CHANNEL SEPARATION:** 25 db at 1,000 Hz.**RECOMMENDED LOAD IMPEDANCE:** 47,000 ohms per channel**INDUCTANCE:** 720 millihenries**D.C. RESISTANCE:** 630 ohms.**MOUNTING:** Standard $\frac{1}{2}$ " (12.7 mm) mounting center using new "Easy-Mount" snap-in bracket.**WEIGHT:** 5 grams.**TERMINALS:** 4 terminals.

GENERAL: The M91, M92 and M93 Series of High Trackability Dynetic phonograph cartridges has been developed for use with all high fidelity amplifiers having magnetic and constant velocity inputs.

MOUNTING: The bracket for each cartridge has standard $\frac{1}{2}$ " mounting centers. Hardware is provided for mounting purposes (The brass screws have British threads.)

1. Remove stylus guard and stylus from cartridge. (See paragraph on stylus replacement.)
2. Remove cartridge from "Easy-Mount" snap-in bracket. (See Figure 1)
3. Start mounting screws into tone arm head or plug-in shell.
4. Slip "Easy-Mount" bracket under heads of mounting screws and tighten screws securely.
5. Connect leads to phono-cartridge. Note color code for proper connection to terminal "L," "R," "LG" and "RG" as indicated in tone-arm instruction manual.
6. Insert cartridge into "Easy-Mount" snap-in bracket. (See Figure 1)



CARTRIDGE AND BRACKET ASSEMBLY
FIGURE 1



Model 92E Users Guide

Specifications

Stylus	Stylus Grip Color	Output (1 kHz at 5 cm peak recorded velocity) †	Frequency Response	Channel Balance	Channel Separation	Tracking Force*
M92E Biradial (elliptical), .4 x .7 mil	Red	5.0 mV	20 to 18,000 Hz	Within 2 dB	20 dB at 1 kHz	0.75 to 1.5 grams (1.25 grams optimum)
N78S 78 rpm , spherical,	Green	4.0 mV	20 to 17,000 Hz	Mono	Mono	1.5 to 3 grams

†Output voltages given for stereo cut record; for MONO cut record, output voltage at both left channel and right channel cartridge terminals will be 71% of figure above.

*Do not exceed maximum indicated tracking force.

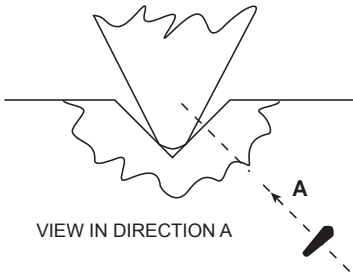
Optimum Load: 47,000 ohms resistance in parallel with 200 to 300 picofarads capacitance per channel. Load resistance can be up to 70,000 ohms with almost no audible change in frequency response. Total capacitance includes both tone arm wiring and amplifier input circuit.

Certification: Conforms to European Union directives, eligible to bear CE marking; meets European Union EMC Immunity Requirements: EN 50 082-1, 1992.

Net Weight: 7.3 grams including standard 1/2 in. mounting adapter. Without adapter, cartridge is compatible with pre-set P-Mount arm.

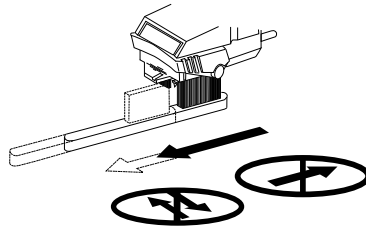
THIS CARTRIDGE FEATURES THE SHURE BIRADIAL NUDE DIAMOND TIP

Its contact area is longer and narrower than the traditional spherical tip-groove contact area. This results in dramatic reduction of both harmonic distortion and inter modulation distortion.



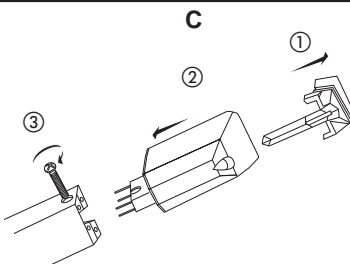
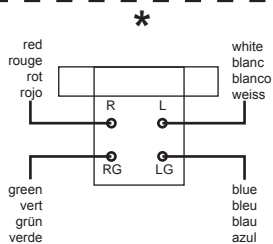
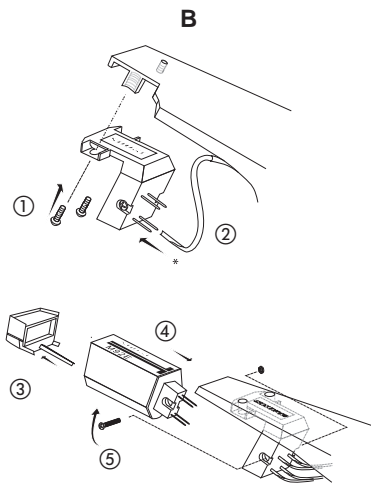
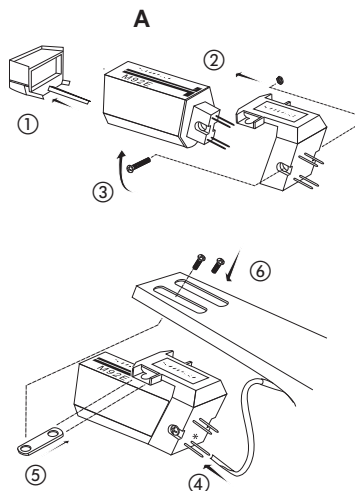
Stylus Cleaning

To clean the stylus, use a soft brush with alcohol or an alcohol-distilled water solution. Brush only from back to front as shown. Commercial cleaning solutions may cause stylus damage.





Mounting



Tracking Force in a P-Mount Arm

After installing the cartridge, it is not usually necessary to adjust the tracking force in a pre-set arm.

Skating Compensation (where applicable)

Set the skating compensation mechanism according to the tone arm manufacturer's instructions.

To Preserve Stylus Life

1. Protect stylus with stylus guard when dusting turntable
2. Regulate tone arm set-down to prevent stylus from striking edge of turntable or record.
3. Do not handle tone arm while record is being played. Use cuing device if available.
4. If manual set-down is necessary, release arm as soon as stylus engages groove
5. Do not activate arm without record on turntable.
6. Do not use damaged records.
7. Make certain cartridge is correctly mounted in tone arm and stylus is properly inserted in cartridge.
8. Use appropriate vertical tracking force for each cartridge and stylus.





Special Note

To maintain the original performance standards of your cartridge, be certain that any replacement stylus you buy bears the following certification on the package: "This Stereo DYNETIC® stylus is precision manufactured by Shure Incorporated." AVOID INFERIOR IMITATIONS. THEY WILL SERIOUSLY DEGRADE THE PERFORMANCE OF YOUR CARTRIDGE. ALL GENUINE "DYNETIC®" STYLI ARE MANUFACTURED BY SHURE INCORPORATED. LOOK FOR THE NAME SHURE ON THE STYLUS GRIP.

Certification: Eligible to bear CE marking. Conforms to European EMC Directive 89/336/EEC. Meets applicable tests and performance criteria in European Standard EN 55103 (1996) Parts 1 and 2, for residential (E1) and light industrial (E2) environments.

Warranty

Shure warrants this product to be free in normal use of any defects in workmanship and materials for two (2) years from the date of purchase. If your Shure product fails within this period, call 1-800-516-2525 in the United States for details on repair, replacement, or refund. In Europe, contact Shure Incorporated Europe GMBH at +49 (7131) 7214-0 or +49 (7131) 7214-30 (service hotline) or contact your authorized Shure distributor. This warranty does not cover abuse or misuse of the product, use contrary to Shure's instruction, ordinary wear and tear, an act of God or unauthorized repair.

Patent Notice

Manufactured under one or more of the following U.S. Patents: 3,463,889; 4,194,744; 4,270,758; 4,275,888; D230,741; D230,995; D235,070; D235,351; D235,352; D235,658; D235,661; D245,022; D245,433; D252,628; D254,004; D257,676; D255,898; D258,586; D274,810; D274,811; D274,812; D274,813; 4,441,177; 4,473,897; 4,514,836.

FORCE D'APPUI: Avec un bras recevant directement le brochage "P-Mount", après le montage de la cellule, il n'est pas nécessaire de réajuster la force d'appui d'un bras pré-réglé.

COMPENSATION DE POUSSÉE LATÉRALE: (lorsqu'elle est appliquée) : Suivez les instructions du fabricant du bras de lecture.

CERTIFICATION: conforme aux directives de l'Union Européenne, qualifiée pour les marques CE; conforme aux exigences CEM de l'Union Européenne EN 50 082-1, 1992.

NETTOYAGE DE LA POINTE DE LECTURE: Utiliser une brosse douce, humectée d'alcool pur ou dilué. Les liquides de nettoyage vendus dans le commerce peuvent endommager ou corroder la pointe. Il faut toujours brosser de l'arrière vers l'avant, jamais de l'avant vers l'arrière ou d'un côté à l'autre.

REMARQUE: Assurez-vous que tout diamant de remplacement que vous achetez porte la garantie suivante sur son emballage: "This Stereo Dynetic Stylus is precision manufactured by Shure Brothers Inc." ÉVITEZ LES IMITATIONS DE QUALITÉ INFÉRIEURE ELLES DETRUIRONT LE RENDEMENT DE VOTRE CELLULE. CHERCHEZ LE NOM DE SHURE SUR LE SUPPORT DE POINTE EN PLASTIQUE.

Garantie totale de deux ans:

Shure garantit que, pour un usage normal, ce produit sera exempt de tout défaut de fabrication et de matériaux pour une période de deux (2) ans à compter de la date d'achat. Si ce produit Shure tombe en panne pendant cette période, appeler le 1-800-516-2525 aux États-Unis pour obtenir des renseignements sur les réparations, les remplacements ou les remboursements. En Europe, appeler Shure Incorporated Europe GMBH au +49 (7131) 7214-0 ou +49 (7131) 7214-30 (téléphone rouge du service d'entretien) ou contacter le centre de réparations Shure agréé. Cette garantie n'est pas applicable en cas d'utilisation abusive ou incorrecte du produit, d'utilisation contraire aux instructions de Shure, d'usure normale, de catastrophe naturelle ou de réparation non autorisée.

AUFLAGEKRAFT: In einem vorjustierten P-Mount Arm, nach einbau des Tonabnehmers in einem P-mount Arm ist eine nachträgliche Korrektur der Auflagekraft normalerweise nicht erforderlich.

SKATING COMPENSATION (falls erforderlich): Die Einstellung der Antiskatingkraft erfolgt nach den Empfehlungen des Tonarm-Herstellers.





ZERTIFIKATION: Entspricht den Vorschriften der Europäischen Gemeinschaft; darf das CE Zeichen tragen und entspricht den EMC Störsicherheits Bestimmungen der EG: EN 50 082-1, 1992.

REINIGEN DES ABTASTSTIFTES: Benutzen Sie bitte eine weiche Bürste, die vorher in Alkohol oder Spiritus getaucht wurde. Handelsübliche Reinigungsmittel können Korrosion verursachen oder sogar zur Zerstörung des Abtaststifteinschubs führen. Von hinten nach vorn bürsten, niemals umgekehrt oder mit seitlicher Bewegung.

BESONDERER HINWEIS: Um die gewohnt gute Wiedergabe ihres Systems nicht zu vermindern, sollten Sie bei der Nachbestückung des System-Einschubs unbedingt auf einen Original SHURE-Abtaststift bestehen. Achten Sie auf die Aufschrift "This Stereo Dynetic Stylus is precision manufactured by Shure Brothers Inc." auf der Verpackung. LEHNEN SIE MINDERWERTIGE IMITATIONEN AB! ERHEBLICHE KLANGMINDERUNG! ODER BESCHÄDIGUNG DER SCHALLPLATTEN KÖNNEN DIE FOLGE SEIN. ACHTEN SIE AUF DEN NAMEN SHURE AN DEM KUNSTSTOFFTEIL DES SYSTEM-EINSCHUBS.

Unbeschränkte zweijährige Gewährleistung:

Shure garantiert, dass dieses Produkt bei normalem Gebrauch für einen Zeitraum von zwei (2) Jahren ab dem Kaufdatum keine Material- oder Verarbeitungsfehler aufweist. Falls Ihr Shure Produkt innerhalb dieses Zeitraums ausfällt, ist die Kundendienstabteilung in den USA unter der Nummer 1-800-516-2525 zu verständigen, um Informationen über Reparatur, Umtausch oder Rü#kerstattung zu erhalten. Kunden in Europa wenden sich bitte an Shure Incorporated Europe GmbH unter der Nummer +49 (7131) 7214-0 bzw. +49 (7131) 7214-30 (Service-Hotline) oder an den zuständigen Shure-Vertragshändler. Diese Garantie gilt nicht bei unsachgemäßer Verwendung oder Zweckentfremdung des Produkts, Einsatz entgegen der Anweisungen von Shure, normalem Verschleiß, Schäden durch höhere Gewalt oder nicht berechtigter Reparatur.

FUERZA DE APOYO: En un brazo liste para montaje tipo "P", después de instalar la cápsula no es necesario ajustar la fuerza de apoyo en un brazo preajustado.

COMPENSACIÓN CONTRA PATINAJE (donde sea necesaria): Siga las instrucciones del fabricante del brazo y utilice una fuerza "antiskating" correspondiente a la fuerza de arrastre

CERTIFICACIONES: Cumple con las directrices de la Unión Europea, califica para llevar las marcas CE; cumple con las directrices de compatibilidad electromagnética de la Unión Europea EN 50 082-1, 1992.

LIMPIEZA DE LA PUNTA DE LA AGUJA: Usar una brocha dulce, humedecido en alcohol etílico o en una mezcla de alcohol y agua. Evitar el uso de líquidos que se venden en los comercios para la limpieza de agujas y discos. Pueden dañar o corroer la aguja. Cepillar siempre de atrás hacia adelante, nunca a la inversa o de costado a costado.

NOTA ESPECIAL: Para que la calidad original de la cápsula se conserve, asegurarse al comprar una nueva aguja que ésta lleve la siguiente certificación en su estuche: "This Stereo Dynetic@Stylus is precision manufactured by Shure Brothers Inc." EVITE IMITACIONES, PUEDEN REDUCIR SERIAMENTE LA CALIDAD DE LA CÁPSULA. TODAS LAS AGUJAS "DYNETIC@" AUTÉNTICAS ESTÁN FABRICADAS POR SHURE INCORPORATED. BUSQUE POR EL NOMBRE SHURE EN EL MANGO DE LA AGUJA.

Garantía completa de dos años: Shure garantiza que si este producto se usa de modo normal, estará libre de defectos por un período de dos (2) años a partir de la fecha de compra. Si el producto Shure muestra defectos durante este período, llame al 1-800-516-2525 (en los EE.UU.) para obtener información acerca de la reparación o reemplazo del mismo, o de la devolución de su dinero. En Europa, llame a Shure Incorporated Europe GMBH al teléfono +49 (7131) 7214-0 ó +49 (7131) 7214-30 (línea de servicio) o comuníquese con el distribuidor autorizado de productos Shure. Esta garantía no cubre el abuso o uso indebido del producto, uso contrario a las instrucciones dadas por Shure, desgaste normal, actos de fuerza mayor o reparaciones por entidades no autorizadas para ello.

SHURE[®]

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Asia, Pacific:

Shure Asia Limited, Phone: 852-2893-4290 Fax: 852-2893-4055



7. The top of the "Easy-Mount" bracket should be flush against the top of the tone arm head for proper playing position, unless other mounting instructions are supplied by the record changer/tone arm manufacturer.

8. Reinsert stylus.

SHURE-SME MOUNTING INSTRUCTIONS: To mount the cartridge in the Shure-SME Precision Pickup Arm, Model 3009 and 3012, refer to the paragraphs on Cartridge Installation and Balancing in the instruction Manual supplied with the pickup arms.

OPERATION: Recommended needle forces for optimum results are listed under "Specifications." Forces greater than the indicated "maximum" should not be used.

CONNECTIONS

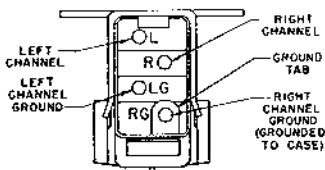
4-LEAD STEREO CONNECTION: Connect "hot" lead of right channel to terminal "R" and shield or ground lead of right channel to terminal "RG." Connect "hot" lead of left channel to terminal "L" and shield or ground lead of left channel to "LG." To prevent "ground loops" and hum, no common connection should be used at cartridge terminals.

MONAURAL CONNECTION: For single channel reproduction of Monaural or Stereo recordings, connect "hot" lead to both "R" and "L" terminals and connect ground or shield lead to both ground terminals marked "RG" and "LG."

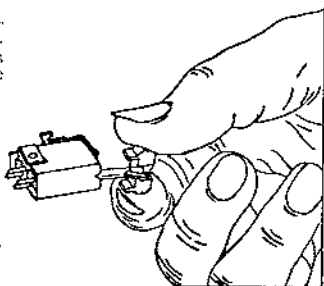
Suggestions for Cleaning Your Stylus

To clean the stylus, use a camel's-hair brush (No. 2 size or smaller) dipped lightly in alcohol. The alcohol will remove any sludge deposits which may have coated the stylus tip. The brush bristles should be trimmed to a length no longer than $\frac{1}{4}$ inch. Always brush the stylus with a forward movement from the rear (terminal end of the cartridge) to the front. Never brush or wipe the stylus from front to back or side to side.

CAUTION: Do not make solder connections to cartridge terminals. Make all solder connections to terminal jacks provided before slipping them over the terminals.



TERMINAL DIAGRAM
FIGURE 2



STYLUS REPLACEMENT
FIGURE 3

EASY STYLUS REPLACEMENT

Grasp molded housing of stylus between thumb and forefinger. Gently withdraw stylus by pulling forward out of cartridge. Grasp replacement stylus between thumb and forefinger and insert into stylus socket. Press stylus into socket until the molded housing of the stylus mates with the cartridge case. Care must be taken not to allow the finger to slip off the molded housing of the stylus, resulting in damage to the stylus tip or shank.

SPECIAL NOTE: The Dynetic stylus assembly used in these cartridges is the most critical component. To maintain the original performance standards of your cartridge, be certain that any replacement stylus you buy bears the following certification on the package: "This Stereo Dynetic stylus is precision manufactured by Shure Brothers Inc."

Avoid inferior imitations. They will seriously degrade the performance of your cartridge. All genuine "Dynetic" styli are manufactured by Shure Brothers Inc.

LABORATORY TEST FINDINGS: (Note: The following stylus test findings of the Shure N3D stylus are an example of the close scrutiny Shure pays to all imitation Shure Dynetic Styli.) Shure laboratory tests show that the imitation stylus assemblies labeled as replacements for the Shure Model N3D Stylus Assembly vary drastically in important performance characteristics. For example, the compliance varied from a low of 0.9 to a high of 11.5, requiring 9.0 grams to track a record with a low compliance stylus, and 2 grams with a high compliance stylus. The high compliance stylus retracted at 4 grams needle force, allowing the cartridge case to drag on the record surface, thereby becoming inoperative. Response at high frequency (relative to the 1kc level) ranged from a 5.5db peak to a drop of 7.5db. Separation varied from "good" (27db) to "poor" (16.5db) at 1kc. These figures reveal that there is very little consistency in performance characteristics of the imitation Dynetic Styli.

In each of the categories shown above, the results ranged from good to poor. As a matter of fact, only 10% of the samples met the Shure performance standards for the Shure N3D Stereo Dynetic Stylus. In addition to our test findings, our Service Department records show that an increasing number of Dynetic Phono Cartridges are being returned because of poor performance—and our examination has disclosed that most of these returned cartridges are using imitation Dynetic Styli.

CONCLUSION: Obviously, if any imitation Dynetic Stylus is used, we cannot guarantee that the performance of Shure Dynetic cartridges will meet the published Shure specifications. Accept no substitute.

GUARANTEE: This Shure product is guaranteed in normal use to be free from electrical and mechanical defects for a period of one year from the date of purchase. Please retain proof of purchase date. This guarantee includes all parts and labor. This guarantee does not include stylus wear.

SHIPPING INSTRUCTIONS: Carefully repack the unit and return it to the factory. If outside the United States, return the unit to your dealer or authorized Shure Service Center for repair. The unit will be returned to you prepaid.

PATENT NOTICE: Cartridge and stylus manufactured under one or more of the following U. S. Patents 3,055,988, 3,077,521, 3,077,522 and 3,463,889.

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