ABOUT THIS RECORDING

This recording is unique. Its purpose is to demonstrate the influence of pickup in groove, and the gauges of the pickup—namely, the ability of the pickup to pick up the sound of the record and correctly reproduce it. A gauge is a tool used to measure the amount of tracking error in a phonograph cartridge. Tracking error occurs when the stylus does not follow the groove properly, resulting in a loss of sound quality.

Recording engineers have found that the tracking error of pickups is the main factor in determining the dynamic range of the records that they produce. In other words, the gauges of the pickup are critical to the quality of the reproduction of the recorded sound.

The drum-roll serves only as a lead-in and the first indication of mistracking is a "sand-ckle" or "crackles". The most severe high frequency trackability test is the first level. The drum-roll is designed so that the stylus has "fits" in the wide blank band and the grooves and cracks are also found.

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GENERAL CONSIDERATIONS

- DO NOT USE THIS RECORD WITH A MONOPHONIC CARTRIDGE.

Use only a stereo cartridge. Set tracking force to the lowest recommended force. Sometimes, increasing the force (but never above the recommended maximum) helps trackability. Avoid repeated playing of this record with low trackability cartridges because high frequency characteristics of the record will be erased by the groove-deforming action of the stylus.

- All four recorded levels of every instrument have been taken from identical master tapes of the same recorded intensity. The levels on the record have been increased electronically at the cutting head —the balance of the recording equipment, settings, etc., remain exactly the same for all four levels. All levels and compressors were taken out of the recording equipment.

- You are urged to keep a "score chart" of the cartridge. (See below.) Audio "memory" is demonstrably unreliable unless relied upon in these precise tests.

- Always use a level of levels 2, 3, 4 against the sound of level 1. The sound of level 1 of any instrument should be the way that the other levels sound. This is especially important because your ear may have been "conditioned" to improper timbre, etc., by many, many years of hearing various of these recorded instruments distorted by mistracking.

- It is possible that your present stereo cartridge won't track well at its minimum rated tracking force. If so, it probably will track better at a higher force. However, you will have to pay the price in greater record wear and shorter stylus life.

- The built-in calibration adjustments on some tone arms are not necessarily accurate. It is recommended that you acquire a separate gauge, such as the Shure SFC-2 Stylus Force Gauge, to double check the calibration of your tone arm.

HOW TO "KEEP SCORE" OF CARTRIDGE TRACKABILITY

Rule one in comparing cartridge trackability is DO NOT TRUST MEMORY. For one thing, audio memory is amazingly short...even among "experts." An A-B test would be ideal for comparing cartridges, but this takes expensive equipment and precise setups. We recommend that you use the chart at the right.

Simply grade the grades "O," "S," "X," or "T" for its ability to track various levels and with varying force. Use Spencer one cartridge against another...even days later. Abbreviations in the chart are:

- **OB** —Orchestral Bells
- **D&C** —Drum and Cymbal
- **EE** —Electric Organ
- **B** —Blank
- **A** —Accordian
- **H** —Harpischord
- **T** —Tracks
- **X** —Crackles
- **C** —Crackles Considerably

Note: Read "General Considerations" above thoroughly before listening further.

**SCORING TABLE**

<table>
<thead>
<tr>
<th>Level</th>
<th>Stylus Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OB, D&amp;C, BD</td>
</tr>
<tr>
<td>2</td>
<td>O, P, A, H</td>
</tr>
<tr>
<td>3</td>
<td>O, P, A, H</td>
</tr>
<tr>
<td>4</td>
<td>O, P, A, H</td>
</tr>
</tbody>
</table>

PRODUCED BY:

The Development Engineering Department of SHURE BROTHERS INC., 222 HARTREY AVENUE, EVANSTON, ILLINOIS 60204

see other side for information on the Shure V-15 Type II Improved Super-Track Cartridge
V-15 Type II Improved:

The results of performance tests on the Shure V-15 Type II Improved by Hirsch-Houck Laboratories were published in a recent issue of Stereo Review. They said of its trackability: "The 'trackability' score for the V-15 Type II Improved is by a comfortable margin the best we have measured to date."

In describing its tone burst response, they said:
"Tone burst response, using the Stereo Review SR-12 test record, was perfect up to the highest frequencies."

And of its sine wave response:
"...Tracked the heavy bass bands on the Cook Series 60 test record at 0.75 grams, and the 30 cm/sec, 1,000 Hz bands of the Fairchild 101 test record at 1 gram... (and) produces a visually perfect sine wave — the first cartridge we have tested that has done so."

And finally, describing its total performance, Hirsch-Houck said the Shure V-15 Type II Improved was:
"As neutral a cartridge as we have heard... unstrained, effortless, and a delight to listen to."

...highest trackability at the lightest tracking forces

THE SHURE V-15 TYPE II (improved) now...with improved trackability in the bass and mid-frequency range

The world-famous, computer-designed Shure V-15 Type II Super Trackability phono cartridge heralded a new epoch in high performance cartridges. Now, Shure has improved the trackability of the bass and mid-frequency range of the V-15 Type II without affecting its redoubtable treble... so that even recordings with very heavily modulated low frequency passages can be tracked at super-light, record-saving forces!

WHAT TRACKABILITY MEANS TO YOU & YOUR RECORDINGS

The "secret" of High Trackability is to enable the stylus tip to follow the hyper-complex record groove up to and beyond the theoretical cutting limits of modern recordings — not only at select and discrete frequencies, but across the entire audible spectrum — and at light tracking forces that are below both the threshold of audible record wear and excessive stylus tip wear.

THE SHURE V-15 TYPE II IMPROVED GIVES SUPERIOR TRACKABILITY AT LIGHT FORCES

No cartridge that we have tested (and we have repeatedly tested random off-the-dealer-shelf samples of all makes and many models of cartridges) can equal the Shure V-15 Type II in fulfilling all of the requirements of a High Trackability cartridge — both initially and after prolonged testing, especially at record-and-stylus saving low tracking forces. The Shure V-15 Type II Improved "Super-Track" Cartridge is capable of tracking the majority of records at ½ gram. However, state-of-the-art advances in the recording industry have brought about a growing number of records which require 1 gram tracking force in order to fully capture the expanded dynamic range of the recorded material.

THE PRACTICAL EFFECT OF IMPROVED BASS TRACKABILITY

Where, in the past, you may have been required to increase tracking forces to track heavily modulated bass drum, tympani, organ pedal, bassoon, tuba, or piano passages, you can now play these passages without increasing tracking force, without bass flutter, or IM distortion. This means that you can reduce ½ gram tracking force to ¼ gram, or 1 gram to ¾ gram for records with high velocity bass material.

YOU CAN IMPROVE YOUR PRESENT V-15 TYPE II

You can attain this superior bass trackability with your present V-15 Type II by using the VN15E IMPROVED stylus listed at right. Look for the word "Shure" in red letters on the stylus grip.

TRACKABILITY AS A MEANINGFUL SPECIFICATION

This chart depicts the new performance specification of trackability. Unlike the over-simplified and generally misunderstood design parameter specifications of compliance and mass, trackability is a measure of total performance. The chart shows frequency across the bottom, and modulation velocities in CM/SEC up the side. The grey area represents the maximum theoretical limits for cutting recorded velocities; however, in actual practice many records are produced which exceed these theoretical limits. The smoother the curve of the individual cartridge being studied and the greater its distance above the grey area, the better the trackability. The trackability of the Shure V-15 Type II Improved is shown by the top (solid black) lines.

SPECIFICATIONS

Trackability at 1 gram tracking force using a Shure/SME Arm:
28 CM/SEC at 400 Hz
35 CM/SEC at 1,000 Hz
35 CM/SEC at 5,000 Hz
33 CM/SEC at 10,000 Hz

Frequency Response: From 20 to 25,000 Hz
Output Voltage: 3.4 mv per channel at 1,000 Hz at 5 CM/SEC peak velocity
Channel Separation: Over 25 db at 1,000 Hz
Over 17 db at 500 to 10,000 Hz
Channel Balance: Output from each channel within 2 db
Stylus: VN15E Bi-Radial Elliptical Stylus, Diamond Tip

MODEL VN15E IMPROVED ELLIPTICAL STYLUS
fits V-15 Type II Improved, V-15 Type II, or V-15 H-7
MODEL VN15H-7 SUPER-TRACK CARTRIDGE WITH .0007" SPHERICAL STYLUS
MODEL VN7 STYLUS—.0007" DIAMOND STYLUS
fits V-15 H-7 Cartridges

SPECIAL NOTE:
¾ gram tracking requires not only a cartridge capable of effectively tracking at ¾ gram, but also a high quality manual arm (such as Shure SME) or a high quality automatic turntable arm capable of tracking at ¾ gram.