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2019

Geismar North America

OPERATION AND MAINTENANCE MANUAL / SPARE PARTS CATALOG

TRACK GAUGER

MTM-ARR 531-B

1.0 Purpose

The purpose of this document is to provide the Operation and Maintenance Manual and Spare Parts Catalog for the Geismar North America MTM-ARR 531B Series 432 Track Gauger.

The track gauger adjusts rail to the correct track gauge and holds rails in place as they are tightened. The machine is electrically insulated to prevent track signals, and detachable handles allow for easy transportation and storage.

2.0 Foreword

We are committed to providing products and services that meet our customer quality and performance expectations while remaining in full compliance with all ISO 9001 regulatory requirements. Therefore, Geismar group tests products in order to continue our commitment to our customers and to the industry we serve.

If your product has been fitted with an hour meter, any operating hours displaying on the device at the time of purchase are due to product testing within our controlled manufacturing facility. Please contact your Geismar representative if you have any questions about our product testing procedures.

Help protect your warranty rights by reviewing the following two sections:

- **Product Liability and Customer Assumption of Risk**
- **Operation and Maintenance Manual Use and Responsibility**

2.1 Product Liability and Customer Assumption of Risk

Under no circumstances shall Geismar North America be held liable for any direct, indirect, punitive, incidental, or special consequential damages to property, life, or the product itself resulting from improper use or neglect and/or failure to follow all instructions, warnings, and recommendations included in this manual.

Therefore, the customer accepts all legal responsibility and assumptions of risk associated with owning, operating, maintaining, and storing this product, including but not limited to the following:

- Improper and irresponsible product use, including operating the product in a way that is not compliant with the instructions, warnings, and recommendations listed in this manual.
- Responsibility for performing all product inspection and maintenance requirements procedures stipulated in this manual.
- The use of the product by unauthorized, unskilled, or inexperienced personnel.
- Modifying products without prior written authorization from Geismar North America. Unauthorized modifications, including repairs, on any equipment or product component will void the customer warranty. Contact your Geismar North America representative for more information.
- The use of spare or replacement parts that are inconsistent with the quality and reliability of parts manufactured, supplied, or recommended by Geismar North America.

- The use of any type, class, or brand of lubricants, fuels, fluids, paints, batteries, and any related consumables that differ from those supplied by, recommended by, or available from Geismar North America.
- Any use, including storage, of this product that is not in compliance with or that is in direct opposition to all applicable and industry-specific local, state, or federal regulations respective to and regardless of country, territory, state, or city in which the product is operated, garaged, or stored.
- All product damage or loss resulting from uncontrollable and/or reasonably unexpected events, to include theft, fire, and natural disaster.

2.2 Operation and Maintenance Manual Use and Responsibility

This product Operation and Maintenance Manual is intended for use by manufacturing leads, operations leads, and maintenance/repair professionals. Please ensure all personnel read and understand all operating, inspection, and maintenance instructions and recommendations (including all general safety information and safety warnings) included in this manual. If applicable or required, provide proper training on any operating or maintenance procedures.

This Operation and Maintenance Manual provides all the information necessary for the proper use, maintenance, and storage of this product and all components for which it has been written. However, this manual is not intended as a substitute for proper professional training/experience and industry licensing, regardless of the country, state, territory, or city in which it is operated, garaged, or stored.

This manual was written for the baseline product. All photographs, drawings, or other visual representations included in this manual are non-contractual and non-binding. If the product you purchased was manufactured to your company's unique contract specifications or if components have been modified or added to the baseline product, the physical appearance of the product and/or components may differ slightly from photographs, drawings, or other visual representations herein. Please contact your Geismar representative with any questions, concerns, or requests for additional product documentation or literature.

To ensure permanent compliance with all current and future regulations specific to the ownership, maintenance, and use of this product, Geismar North America reserves the explicit right to make all necessary product modifications, revisions, and improvements.

When necessary, this manual will be revised to reflect any product or component modifications, revisions, and improvements, including operating, maintenance, and safety instructions.

The current customer is required to transfer or provide any new owner with the original Operation and Maintenance Manual (or a copy) and accepts all responsibilities for delivery therein. If this unit is sold, traded, etc., the customer must contact their Geismar representative within 30 days with the name and contact information of the new owner.

The Operation and Maintenance Manual shall be considered as equipment; therefore, it shall be stored inside the control station in an easily accessible location. This manual is applicable to and remains a part of this product until the product is no longer in service or no longer operable.

Please contact your Geismar representative to request a replacement copy if this manual is lost or destroyed.

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3.0 Safety

NOTE: Customer/operator takes full legal responsibility for maintaining compliance with all safety rules and regulations specific to the country, territory, state, or city in which this product is operated, garaged, or stored.

Geismar North America has provided the information included in this chapter as a general guide. Some of the information listed here may not be directly applicable to the product, machine, or vehicle you purchased; however, it provides a good overview of general safety guidelines.

The following symbols accompany operating or maintenance procedures that, if not followed correctly, may result in bodily injury or equipment damage:

Danger: Potential for serious bodily harm, up to and including death, and will cause extensive equipment damage.

Warning: Potential for bodily harm or moderate to severe equipment damage.

Special Instruction or Note: Potential for equipment damage or special instruction.

3.1 General Safety Guidelines

- Follow all recommendations listed in the Operation and Maintenance Manual.

- Always wear the proper Personal Protective Equipment (PPE) when performing maintenance or repair procedures, (e.g., safety glasses, coveralls or long pants and long-sleeved shirts; chemical-resistant gloves; and proper footwear, such as steel-toed work boots or shoes). Always follow the PPE guidelines and regulations respective to the location (country, state, province, and/or territory) in which you are working.

- Do not modify any equipment or components without prior written authorization from Geismar North America.

- Keep safety data sheets (SDS) of all fluids, lubes, oil, etc., used in the maintenance/repair area.

- Regularly inspect and perform maintenance.

- Immediately report all broken equipment, components, hoses, etc. Do not operate machine until all necessary repairs have been completed.

- Inspect all machine safety devices at the start of each work shift. Make sure all protective guards and covers are in place and secured.

- Do not wear loose clothing or jewelry when performing maintenance procedures. Keep hair pulled into a ponytail or tucked into a hat.

- All Danger or Warning labels and similar signs must remain on the equipment. Replace all weathered, damaged, faded, or missing signs as soon as possible. Contact your Geismar North America representative to order replacements.

- Unless otherwise specified, never attempt to make equipment adjustments while the machine and/or power supply or any of its components and parts are in operation.

- All rotating/moving parts pose a risk of crushing or shear injury.

- Never store maintenance fluids in glass containers. Keep maintenance fluids in their original containers.

3.1.1. Before Performing Maintenance or Repair

- Ensure the machine is in the OFF position and attach a **DO NOT OPERATE** or similar warning tag to the start switch or controls.
- When performing maintenance on an off-track rolling vehicle, place chocks behind wheels.

3.1.3 Retainer Pins

- Always protective glasses when striking a retainer pin to avoid eye injury.
- Warn individuals standing in the immediate area when striking a retainer pin. If struck with enough force, retainer pins may fly out and injure nearby persons.

3.1.4 Hoses and Clamps

- Do not bend or strike high pressure lines, hoses, or tubes.
- Do not reuse or install bent/damaged or reuse lines, hoses, or tubes.
- Do not reuse lines, hoses, or tubes.
- Do not weld or flame cut on pipes or tubes that contain flammable fluids.
- Inspect all lines, tubes, and hoses carefully. Always wear gloves when checking for leaks—never use your bare hands.
- Secure all fasteners and connections.
- Ensure all clamps, guards, and heat shields are installed correctly to prevent vibration, to prevent equipment and other components from rubbing against hoses and other parts, and to prevent machine from overheating.

3.1.5 Hydraulic System

- Repair any loose or damaged hydraulic lines, tubes, and hoses.

- Always wear gloves when working with or inspecting hydraulic hoses Repair any hydraulic leaks immediately.
- Hydraulic fluid can be extremely hot and can cause severe burns. Allow the hydraulic system to cool before changing lines, connections, filters, or fittings.
- When heated or hot, petroleum-based hydraulic fluids present a significant fire hazard, especially if there are ignition sources nearby.
- It is extremely important that all hydraulic system pressure is released before any lines or fittings are disconnected or removed. **If hydraulic fluid discharges under high pressure, a fine oil mist sprays over the entire area. Either of the following circumstances will cause serious bodily injury, up to and including death.**

  - **If the mist contacts an ignition source, it will result in a torch-like ball of fire.**
  - **If the oil mist is in a confined area, an explosion may occur.**
- Periodically inspect hydraulic hoses, tubes, lines, and fittings. Carefully examine any deterioration to determine whether using the component would pose a significant safety risk. Immediately replace component(s) if
  - A hydraulic oil leak is discovered at the surface of a flexible hose or where it connects with the metal and couplings.
  - The hydraulic hose outer covering is blistered or deformed.
  - Normal tightening (and/or using recommended procedures) of a threaded or clamped joint does not stop hydraulic oil leak.
- The outer surface of a hose, rigid tube, or hydraulic fitting is cut, slit, scraped, or excessively worn.
- Cap hoses and store away from foot or equipment traffic when not in use. Prevent hoses from rubbing against other equipment and components while operating machinery.

- Run a piece of wood or cardboard along the hose to check the hydraulic system for leaks. ***Never use your hands, gloved or not, to check for leaks***.
- Pressure relief valves incorporated into the hydraulic system will prevent pressure buildups during use. Do not remove pressure relief valves. Only authorized personnel should adjust pressure relief valves.
- Do not incorporate a low-pressure component, coupler, hose, or fitting on a high-pressure system.
- Gallons per minute (GPM) hydraulic flow requirements vary based on tool type, model, and age. Refer to the original manual received with unit or contact your Geismar North America representative for the pressure and GPM requirements for each specific tool.

3.1.6 Injection Injury Hazard

- An injection injury is caused by high-pressure injection of fluid (such as oil, grease, fuel, solvents, hydraulic fluid, etc.) under the skin. Most of these fluids are extremely toxic. The initial wound may appear minor and may not be acutely painful, but the risk of internal injury can be severe, including loss of limbs or death. If an injection injury occurs or is suspected, call 911 immediately.

3.1.7 Flammable Materials

- All fuels/fuel fumes, most lubricants, and some coolant mixtures are flammable, with a flashpoint below 100 degrees Fahrenheit (37.8 degrees Celsius). Do not strike matches or use cigarette lighters in/around a refueling area, while draining or replacing oil or hydraulic fluid, or in areas where batteries are charged or stored.

3.1.8 Cleaning

- Regularly clean all equipment. Remove all excess oil, grease, fluids, dust, and other debris.
- Whenever possible, use only clean water and a mild detergent.
- If used for cleaning purposes, maximum air pressure from the nozzle must be less than 30 psi (205 KPa).
- Always wear a protective face shield and protective clothing (long-sleeved shirt and long pants or coveralls) when cleaning machine with an air pressure hose.

3.2 Special Safety Information: Combustion Engines

- Internal combustion engines work through a specific fuel-to-air ratio. Air enters the engine cylinders through the intake as an external fuel source. If a combustible engine is powered on where flammable vapors or gases are used or stored, those vapors and gases mix with ambient air and increase the fuel-to-air ratio, creating ignition hazards such as
    - Elevated engine operating temperature
    - Sparks or backfiring
    - Overspeed (runaway engine)

Any of these situations can cause an explosion with catastrophic consequences, up to and including serious bodily injury or death.

- Always use device provided by Geismar North America to start the combustion engine. Never start the engine with any other device or object.
- Turn engine OFF and allow to cool down before refueling, replacing any other fluids, or performing maintenance.

- Do not smoke or use smoking devices while operating or performing maintenance on a combustion engine (e.g., electronic or e-cigarettes and pipes; vape or vaporizer pipes; and similar items, etc.).

- Start/operate the machine outdoors or in a well-ventilated environment.

- Do not refuel, replace fluids, or perform maintenance near any heat source.

- Power OFF all mobile phones and other battery-operated devices before fueling of performing maintenance on a combustion engine. Some types of batteries used in mobile phones (such as lithium-ion (Li-Ion) batteries) can arc, which may cause a spark or flame.

- Fuel splatters or fuel leakage onto electrical components or hot surfaces can lead to fire. Immediately clean spills or leaks from tank with clean dry cloths.

3.3 Special Safety Information: Electrical Devices

Any person using with electrical devices to repair or perform maintenance on the Geismar Hydraulic Power Packs must be trained and authorized. **This manual is not intended as a substitute for proper training.**

- Post hazard and warning signage on or near the machine.

- Provide operators and all maintenance personnel with the proper personal protective equipment (PPE) for working with electric devices (generally includes safety glasses, face shields, hard hats, safety shoes, rubber gloves with leather protectors, insulating sleeves, and flame-resistant (FR) clothing.

3.4 Special Safety Information: Equipment with Hydraulic Devices

- Never bend or hammer high-pressure hydraulic pipes.
- Regularly all hydraulic pipes for leaks and other damage. Do not use bare hands to check for leaks!
- **Hydraulic Injection Injury Hazard:** Although rare, a hydraulic injection injury is caused by high-pressure injection of hydraulic fluid under the skin. Hydraulic fluid is extremely toxic. The initial wound often seems minor and may not be painful, but the risk of internal injury can be severe, including loss of limbs or death. If an injection injury occurs (or is suspected), call 911 immediately.
- Immediately replace damaged or worn hydraulic pipes.
- Remove any residual pressure resulting from hydraulic circuits before disconnecting hydraulic components. (A hydraulic circuit is a group of components such as pumps, actuators, control valves, conductors, and fittings.)
- Gallons per minute (GPM) hydraulic flow requirements vary based on tool type, model, and age. Refer to the original manual your received with unit or contact your Geismar North America representative for the pressure and GPM requirements for each specific tool.
- Never operate tools at flow rates above outside Geismar North America specifications.

4.0 Geismar North America Track Gauger / MTM ARR-531B

General Characteristics

Manufacturer

Geismar North America
134 Parker Drive
Beaufort, SC 29906

Equipment Description

Model: **TRACK GAUGER**
Type: **MTM ARR-531B**

Technical Specifications

Technical Specifications	Track Gauger MTM ARR-531B
Length	70 in. (1778mm)
Width	7 in. (178mm)
Height	• **Transport/storage:** 36 in. (914.4mm) • **Operating:** 10 in. (254mm)
Max. cylinder extension	• **Max. load:** 2 T (Hydraulic ram cylinder capacity) • **Reach:** 6.1 in. (154.94mm)

- Do not drop heavy objects onto the hose.
- Do not allow hose to kink.
- Keep gauger away from heat or fire.

5.0 Operation

5.1 Operating Procedures

1) Turn valve control knob counter clockwise (CCW) to release hydraulic pressure and allow ram cylinder to extend to maximum length.

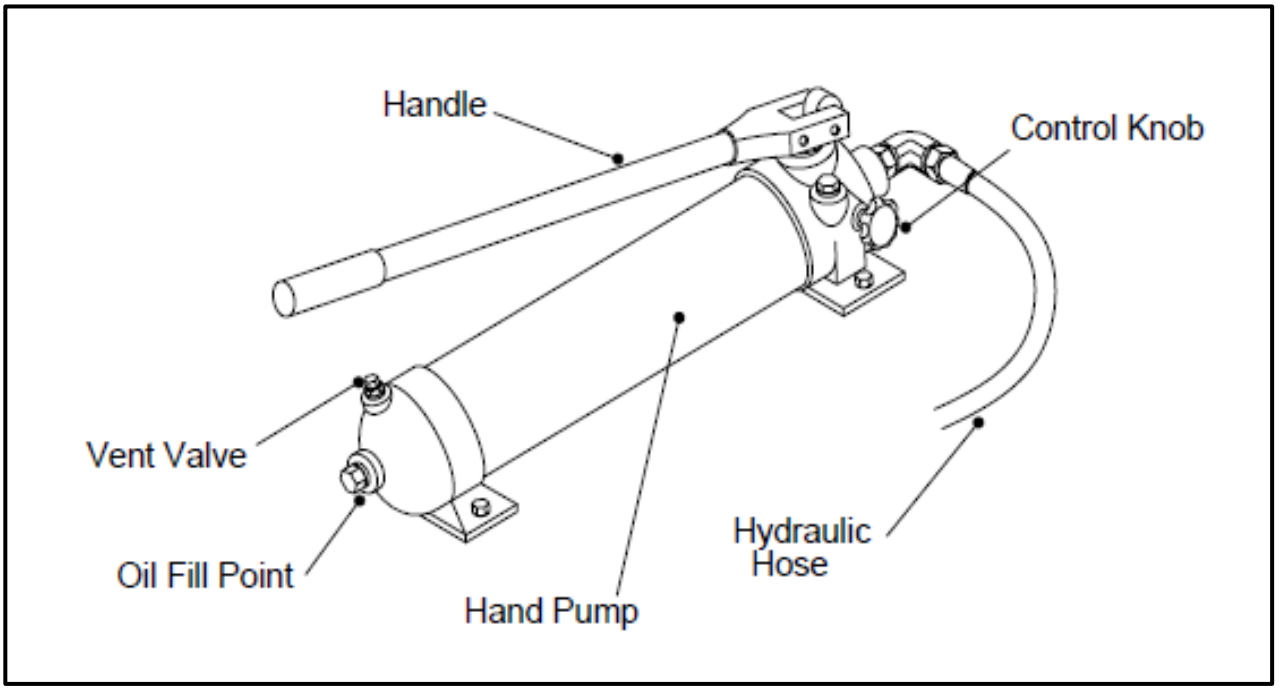
2) Place one wheel onto rail track, then support other wheel onto track.

3) Keep vent valve closed when hydraulic pump is not in operation. Open valve when operating.

4) Turn control knob clockwise CW to operate ram cylinder. Push and pull handle to retract cylinder and bring the rail track to correct gauge position. Ram cylinder holds track at correct gauge position until rails are tightened.

The lock nut setting determines the cylinder stroke limit. The lock nut setting must be set correctly in order to obtain a consistent gauge along the rail track.

5) Turn control knob CCW to release machine.



6.0 Maintenance

Regularly check hydraulic oil level [1.3 pints (625cc)].

7.0 Storage and Recycling

- Thoroughly clean before storing to prevent dirt, dust, and other debris from falling into machine components.
- When possible, store in a controlled environment.
- If storing in an exposed area, avoid direct exposure to dusts, exhaust gases, humidity, direct sunlight, and rapid or extreme temperature variations.
- Ensure hoses are capped and protected from foot or equipment traffic when not in use.
- Ensure hoses are not exposed to sunlight.

8.0 Decommissioning and Disposal

- Remove all used grease and oil before decommissioning or disposing.
- Geismar North America fully supports and strongly recommends all efforts to protect the environment.
- In the European Union, all electrical and/or electronic components must be recovered and recycled in compliance with the European Union Waste Electrical and Electronic Equipment (EU WEEE) Directive.

If your machine is operated and stored within the United States, the U.S. Environmental Protection Agency (U.S. EPA) provides all essential information regarding the management of used oil (https://www.epa.gov/hw/managing-used-oil-answers-frequent-questions-businesses).

U.S. individual state and territory regulations *exceed federal regulations*. The customer is responsible for maintaining compliance with all applicable regulations. Refer to the U.S. EPA interactive map for more information on the management of used oil (https://www.epa.gov/hwgenerators/links-hazardous-waste-programs-and-us-state-environmental-agencies).

SPARE PARTS CATALOG

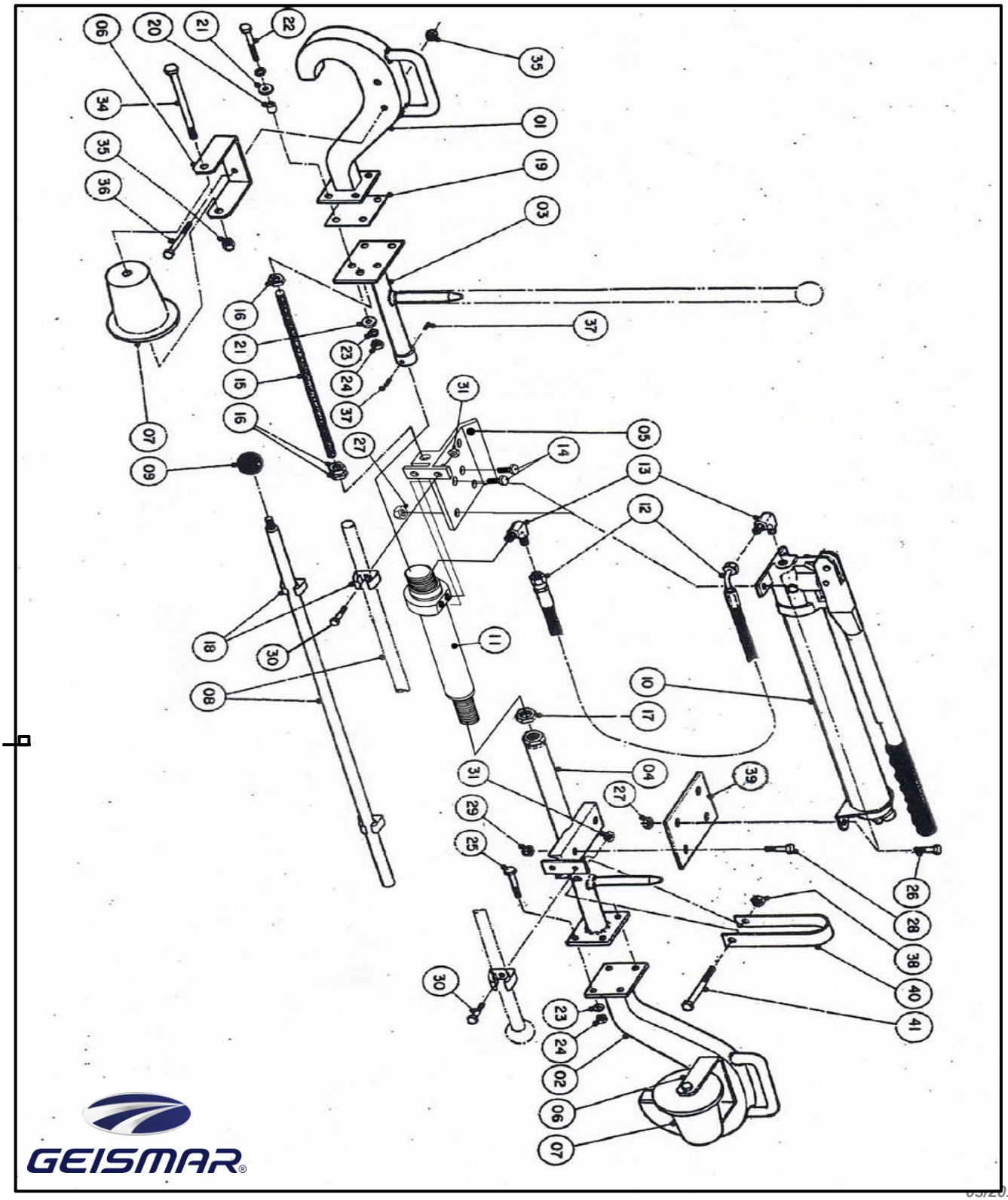
MTM-ARR-531B
Series 432
TRACK GAUGER

MTM-ARR-531B
TRACK GAUGER

ITEM	PART NUMBER	DESCRIPTION	QTY
1	MTM ARR-531-01	RIGHT HOOK	1
2	MTM ARR-531-02	LEFT HOOK	1
3	MTM ARR-531-03	RIGHT ARM	1
4	MTM ARR-531-04	LEFT ARM	1
5	MTM ARR-531-05B	PUMP SUPPORT	1
6	MTM ARR-531-06	WHEEL SUPPORT	2
7	MTM ARR-531-07	WHEEL	2
8	MTM ARR-531-08A	HANDLE	2
9	27105H	KNOB	2
10	MTM ARR-531APUMP	HAND PUMP	1
11	431-1	HYDRAULIC RAM CYLINDER	1
12	282-BM-8	HOSE ASSEMBLY	1
13	2024-4-4S	90 DEGREE ELBOW	2
14	5/16UNF x 1/2HHCS	HEX BOLT	2
15	MTM ARR-531-15	THREADED ROD	1
16	5/8 IN. UNF HEX	JAM NUT	3
17	7/8 IN. UNF HEX	JAM NUT	1
18	C916	CLIP	4
19	MTM ARR-531-19	INSULATOR PLATE	1
20	MTM ARR-531-20	INSULATOR SLEEVE	4
21	MTM ARR-531-21	INSULATOR WASHER	8
22	M10x40HHCS	HEX BOLT	4
23	10MM-FLAT WASHER	FLAT WASHER	8
24	AZ	HEX NUT	8
25	M10x35HHCS	HEX BOLT	4
26	5/16-16 x 1 IN. STTSHCS	STAINLESS SOCKET CAP SCREW	4
27	5/16-16-NYLOK NUT	SELF-LOCKING NUT	4
28	5/16-16x1 IN. HHCS	HEX BOLT	2
29	5/16 IN. NYLOK NUT	SELF-LOCKING NUT	2
30	10/32 x 1/4 IN. SHSS	SOCKET HEAD SCREW	4
31	10/32-NYLOK NUT	SELF-LOCKING NUT	4
32	49-00-024	HEX BOLT	1

MTM-ARR-531B
TRACK GAUGER
(Cont.)

ITEM	PART NUMBER	DESCRIPTION	QTY
33	45920	LOCK WASHER	1
34	M10x120HHCS	HEX BOLT	2
35	M10-NYLOK	SELF-LOCKING NUT	6
36	M10x40HHCS	HEX BOLT	4
37	1/4-20 x 1/4 IN.HSS	SOCKET SET SCREW	2
38	1/2 IN. NYLOK	SELF-LOCKING NUT	1
39	MTM ARR-531A 22	PUMP SPACER PLATE	1
33	45920	LOCK WASHER	1
34	M10x120HHCS	HEX BOLT	2
35	M10-NYLOK	SELF-LOCKING NUT	6
36	M10x40HHCS	HEX BOLT	4
40	MTM ARR-531A-25	U-BRACKET CLAMP	1
41	1/2 IN. x 2 1/2 IN. HHCS	HEX BOLT	1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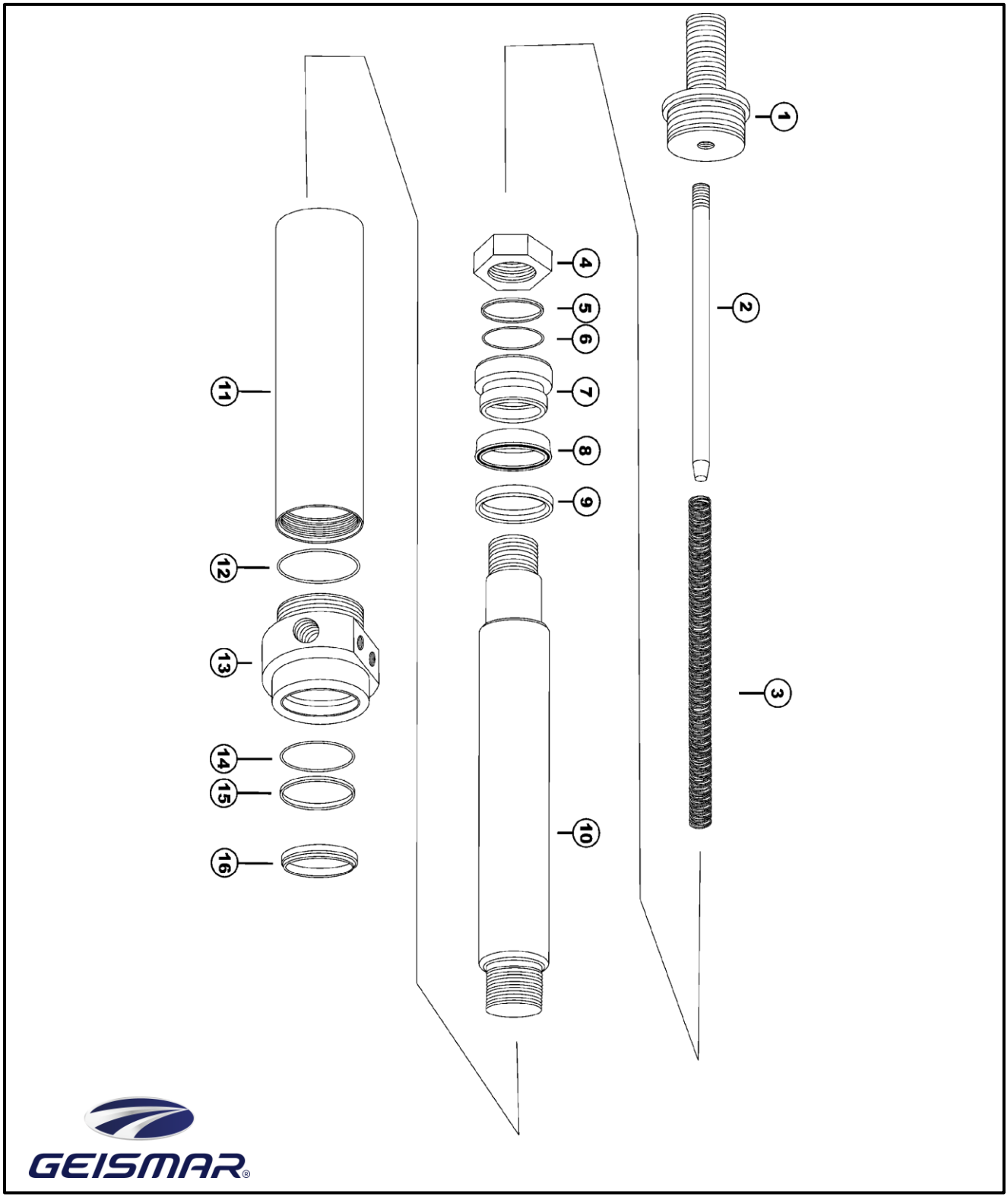
MTM-ARR-531B TRACK GAUGER
HYDRAULIC RAM CYLINDER

ITEM	PART NUMBER	DESCRIPTION
1	431-1-6	REAR PLUG
2	431-1-7	SPRING GUIDE
3	431-ML-1	SPRING
4	431-1-4	JAM NUT
5	80-117	BACK UP RING
6	2-117	O'RING
7	431-1-3	PISTON
8	431-ML-3	PISTON SEAL
9	431-1-8	SPACER
10	431-1-2	ROD
11	431-1-1	TUBE
12	2-222	O'RING
13	431-1-5	FRONT GLAND
14	2-218	O'RING
15	80-218	BACK UP RING
16	431-ML-2	WIPER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Customer Service: 847-697-7510 / usa@geismar.com