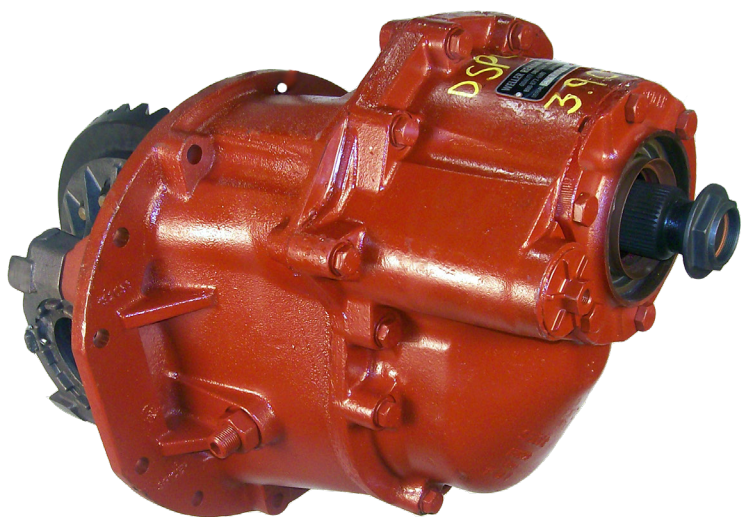


WELLER

100% Associate Owned



OWNER'S MANUAL: DIFFERENTIALS

Tag # _____

Mileage In: _____

Date Installed: _____

QUALITY REMANUFACTURED

TRANSMISSIONS AND TRANSFER CASES

Quality Remanufactured Products by WELLER for the Following Applications

Medium to Heavy Duty

Eaton/Fuller • Meritor • Volvo (Volvo Truck Compatible Part) • Mack • TTC Spicer • ZF • Clark • IHC • Isuzu • GMC

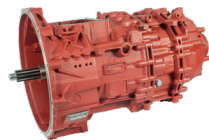
A complete line of Auxiliaries and Transfer Cases



AUTOMATED MANUAL TRANSMISSIONS

Quality Remanufactured Products by WELLER for the Following Applications

Eaton Cummins Endurant • Eaton UltraShift PLUS • Detroit DT12 • Volvo I-Shift* (Volvo Truck Compatible Part) • Mack mDRIVE® • Meritor Freedomline® • ZF AS-Tronic®



AUTOMATIC TRANSMISSIONS

Quality Remanufactured Products by WELLER for the Following Applications

Allison Transmissions® • Clark • Funk • CAT • ZF



DIFFERENTIALS

Quality Remanufactured Products by WELLER for the Following Applications

Complete Stock for quick exchange

Meritor/Rockwell • Dana • Spicer • Eaton • Volvo (Volvo Truck Compatible Part) • Mack • Freightliner/Alliance • Clark • GMC • Industrial/Off Road • Terex



STEERING GEAR BOXES AND PUMPS

Quality Remanufactured Products by WELLER for the Following Applications

Tested on a State-of-the-Art XLT3 Road Simulator

TRW-Ross • Saginaw • Sheppard • Vickers Pumps ZF • Eaton • Luk



ELECTRONICS

Quality Remanufactured Electronics by WELLER for the Following Applications

All units are tested for performance and quality.

Cummins • Eaton • ZF • Allison® • Volvo/Mack (Volvo Truck Compatible Part) • Detroit • PACCAR



PROGRAM DESCRIPTION

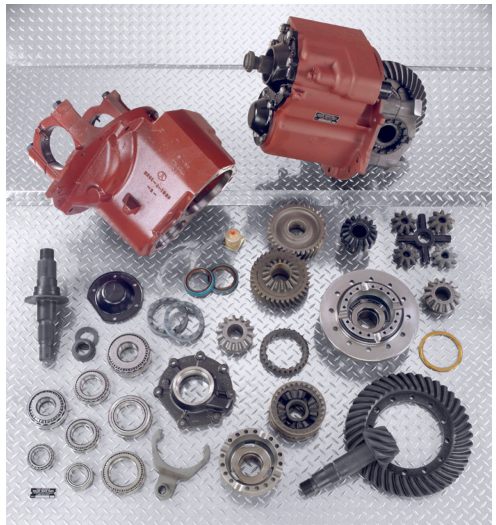
As your company focuses on quality repairs and parts, put Weller on your team! Together we can eliminate downtime with complete coverage of all your drivetrain needs. That's the Weller Way – partnering in select relationships that successfully provide the customer with the best product and service. No hype! Just a true competitive advantage through quality and availability.

With 600,000 square feet of remanufacturing facilities and 37 nationwide company-owned distribution locations, we are committed to our customers. Weller's Unit Exchange program maximizes uptime with a 20,000+ unit stock plan of remanufactured transmissions, differentials, steering gears, PTOs, and hydraulic pumps ready to ship.

Consider becoming a partner in the industry's leading drivetrain program. Contact us today! With no commitments and no minimums, we are the Drivetrain Partner for you!

Our reman program includes:

- 100% disassembled, cleaned, and inspected
- Remanufactured with only the highest quality parts available.
- Gearsets are replaced in sets only
- All NEW bearings, gaskets, seals and washers
- Our reman program includes:
- All Makes Coverage – One Call
- Same Day/Next Day Delivery
- Obsolete and Discontinued Specialists
- Nationwide One-Year, unlimited mileage, parts and labor warranty



WELLER APP



Designed with our customers in mind, we wanted to bring a user-friendly way for you to access the information you need when you need it most.

Features

Schedule a Core Return: Easily schedule core returns from your phone!

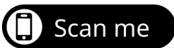
View Warranty Status: Have a warranty you want to know the status of? View all of your warranties with the Warranty Tracker.

Quickly Locate a Store: We are always adding new locations to better serve you.

Weller Literature: Find our Owner's Manuals and other sales literature like our Core Return Program and sales catalogs

Training Videos: Visit our growing collection of videos designed to educate and prevent common issues across a wide range of our products.

How to Download

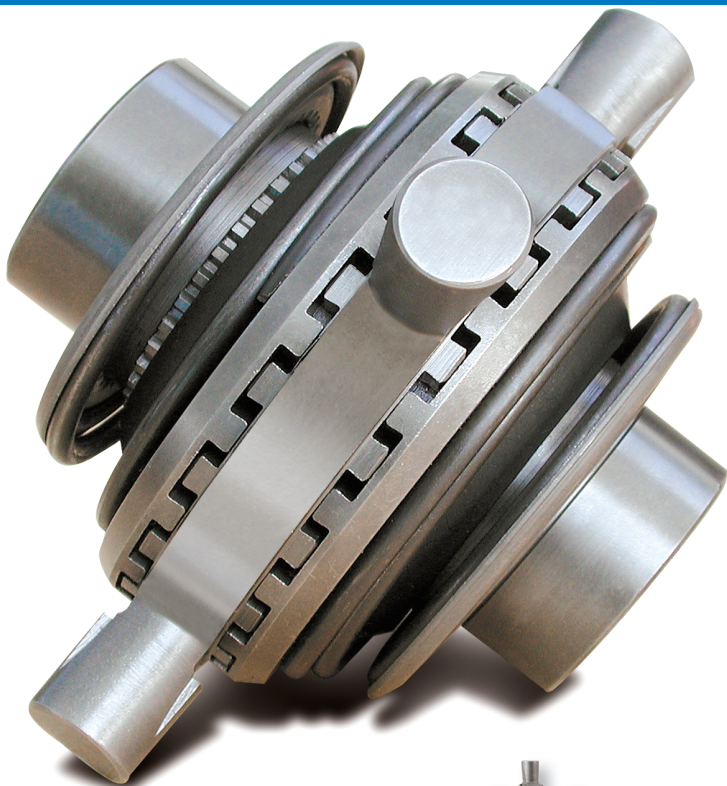


The new Weller Truck Parts app can be downloaded for free from the Apple App Store and Google Play.

Supported devices include iPhone (iOS 11.0 or later) and Android smartphones (5.0 Lollipop and up).



Eaton NoSPIN® Differential



- **Maintenance free**
- **100% automatic locking**
- **Uses original differential case, with easy installation**

NoSPIN is a proven performer for light, medium and heavy duty trucks, off-highway, agricultural, forestry, military and specialty equipment vehicles. NoSPIN maximizes traction by delivering 100% of the torque and power to both drive wheels. It is engineered to keep both wheels in a constant drive mode, yet has the ability to automatically "unlock" to permit necessary wheel speed differentiation. The NoSPIN is trouble free and doesn't require special lubricants or service adjustments.



Powering Business Worldwide

Available at **WELLER**

Eaton.com

INSTALLATION GUIDE

VEHICLE MAKE AND MODEL _____

DIFFERENTIAL ASSEMBLY NO. _____

MECHANIC'S NAME _____

VEHICLE ID NO. _____

IMPORTANT INSTALLATION INFORMATION

Weller's history shows a majority of premature component failures are caused by not inspecting the vehicle for these common items!

STEPS MUST BE FOLLOWED OR WARRANTY WILL BE VOIDED

I. **Warning:** Differential carrier is shipped with NO Lubricants. After installation fill with the correct OEM approved lubricants!

II. Yokes

- Thoroughly clean & inspect all surfaces for wear. It is common to find wear at the u-joint, end seat, seal surface, yoke flange and splines..... ☐
- Pre-lube yoke seal surface for nstallation ☐
 - **ATTN:** Do not use wear sleeves for worn seal surfaces! ☐
 - **ATTN:** Torque ALL fasteners to OEM specification! (See pg. 5 for common carrier yoke fastener toque values)..... ☐

III. Axle Housing

- Clean & ensure housing is free of debris and contamination from previous failure. ☐
- Install NEW breather..... ☐
- Inspect for bends in axle tubes..... ☐
- Inspect axle housing for cracks ☐
- Tandem drive axles: R&R output shaft assembly; clean, inspect and replace components as necessary ☐
- Tandem drive axles: Measure, adjust, and record the output shaft bearing endplay confirming it meets OEM specification ☐
 - **ATTN:** Ensure wheel ends are lubricated after carrier installation! ☐

IV. Axle Shafts

- Inspect splines for excessive wear, and replace as necessary ☐
- Measure axle shafts for excessive runout, and replace as necessary ☐
- Measure, adjust and record wheel bearing endplay confirming it meets OEM specification ☐

INSTALLATION GUIDE

I. Axle Shafts

- Inspect splines for excessive wear, and replace as necessary ☐
- Measure axle shafts for excessive runout, and replace as necessary ☐
- Measure, adjust and record wheel bearing endplay confirming it meets OEM specification ☐

II. Driveline

- Measure for play, replace and grease u-joints as necessary ☐
- Inspect carrier bearing..... ☐
- Measure, record, and adjust ride height confirming it meets OEM specification..... ☐
- Confirm driveshaft phasing is correct per OEM specification..... ☐
- Measure, record and adjust driveline angles per OEM specification..... ☐

III. Tires

- Inspect tires for wear & confirm all tires are the same size..... ☐
 - **ATTN:** Drive axle tires must match by circumference not diameter!..... ☐

NOTE: This is a generic differential carrier installation guide outlining commonly worn driveline components. Detailed procedures can be found in the specific OEM service manual for the applicable vehicle & components.

SPICER®



Made in USA

Spicer® FE 75W-90

Fuel-Efficient Synthetic Gear Lubricant

Protect your bottom line—and the environment—and still get unparalleled performance.

Spicer® fuel-efficient synthetic gear lubricant delivers excellent lubrication, ensuring longer gear life and better operating performance, even in extreme heat and cold. In addition, you'll get improved fuel economy and lower CO₂ emissions for a greener and more profitable fleet. Trust Spicer to help you keep your fleet on the road with top quality parts—as well as the lubricant that provides the ultimate in gear and bearing protection. Talk to your Spicer parts representative about the benefits of genuine Spicer® fuel-efficient synthetic gear lubricant today.



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www.SpicerParts.com

Spicer® FE 75W-90 Fuel-Efficient Synthetic Gear Lubricant

Trust Spicer to Protect the Parts That Keep Your Fleet on the Road.

For better operating performance over time and a longer gear life, Spicer remains the name people trust. Not only does Spicer® fuel-efficient synthetic gear lubricant provide ultimate protection for gears and bearings, but it's also proven to deliver improved fuel economy and reduce CO₂. In addition, with Spicer fuel-efficient synthetic gear lubricant you can count on:

- Quantifiable 1% fuel savings improvement
- Reduced gear wear
- Reduced maintenance
- Less oil disposal
- Decreased vehicle downtime
- Maximum extreme hot and cold temperature performance
- Extended drain interval up to 500,000 miles
- Extended carrier warranty protection option
- Available in 1-gallon (FE75W90-G) or 5-gallon (FE75W90-P) containers or 55-gallon drum (FE75W90-D)

Engineered to meet the specifications of line haul, vocational heavy duty, and light duty drive axles, Spicer® FE 75W-90 fuel-efficient synthetic gear lubricant is also recommended for applications where heat and wear present operational issues for your fleet. Applications include manual transmissions where EP type lubricants are recommended, transfer cases for heavy equipment trucks, tractors, and industrial gear drives. In addition, Spicer fuel-efficient synthetic gear lubricant is recommended for use on automobiles, light duty trucks and farm machinery. **Warranty on qualifying carriers can be extended by 12 months when a new genuine Spicer service carrier is purchased and installed, and Spicer® FE 75W-90 fuel-efficient synthetic gear lubricant is used to fill the drive axle.**

Specifications/OEM Approvals

Spicer FE 75W-90 fuel-efficient synthetic gear lubricant is approved to meet the most stringent industry specifications, as established by Dana:

- Dana SHAES-256 Rev C & 429
- GL-5, MT-1
- SAE J 2360
- MIL-PRF-2105E
- Meritor O76-N
- Navistar TMS 6816
- Mack GO-J Plus

NOTE: Properties are typical of those obtained with normal production tolerance and do not constitute a specification. Variations that do not affect product performance are to be expected during normal manufacture and at different blending locations. The information contained herein is subject to change without notice. All products may not be available locally.

Characteristics:

Appearance	Amber	
SAE Grade	75W-90	SAF -J306
Viscosity, CSt	ASTM D-2161	
100° C	15.0	
40° C	103	
Brookfield Viscosity, cP	ASTM D-2983	
-40° C	90,000 Typical	
Viscosity Index	152	ASTM D-2270
Pour Point, °C (°F)	<-45 (<-48)	ASTM D-97
Flash Point, °C (°F)	215 (420)	ASTM D-92
Density, g/l, 15.6° C	891	
(lbs./gal., 60° F)	7.42	

To learn more about Spicer® FE 75W-90 fuel-efficient synthetic gear lubricant and other genuine Spicer products, visit www.SpicerParts.com/lubricants/oil.



Dana Aftermarket Group
PO Box 321 Toledo, Ohio 43697-0321
Phone: 1.800.621.8084
www.SpicerParts.com

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SPICER®



Please refer to material safety data sheet for handling details. Subject to appropriate storage in closed original containers under the usual storage and temperature conditions. Spicer® FE 75W-90 fuel-efficient synthetic gear lubricant is stable for at least 3 years.



INSTALLATION GUIDE

CAUTION!

Weller's history shows a majority of customer caused failures are from improper tightening of the yoke or flange and not checking these commonly worn items.

MODEL	INPUT YOKE NUT TORQUE SPECIFICATIONS
RD20145	750-850 LBS-FT
DS404	840-1020 LBS-FT
RS404	575-703 LBS-FT
DSP40	840-1020 LBS-FT
RR20145	920-1130 LBS-FT
DS402	840-1020 LBS-FT
RSP40	575-703 LBS-FT
RRL20145	920-1130 LBS-FT
RS402	560-700 LBS-FT
RA47R	900-1100 LBS-FT
RA472F	900-1200 LBS-FT
RDL20145	750-850 LBS-FT
RSH40	575-703 LBS-FT
RR23160	920-1130 LBS-FT

Any references to trademarks are for cross-reference purposes only. The majority of our gearing inventory is original equipment, however many numbers are not. Please call for clarification on an individual basis. The rebuilt units are primarily – and proudly – Weller rebuilt! The mailing of this sheet does not constitute an offer to sell. **PRICES SUBJECT TO CHANGE WITHOUT NOTICE.**

U-JOINT ANGLES

Out of spec u-joint operating angles reduces component life and is a leading cause of premature failure to transmissions, differentials, transfer cases, and PTOs.

SAFETY FIRST

Review owners manuals, service manuals, and other OE provided instructions. Confirm driveline series and length is correct for torque, RPM, and vehicle specifications. Wear appropriate PPE.

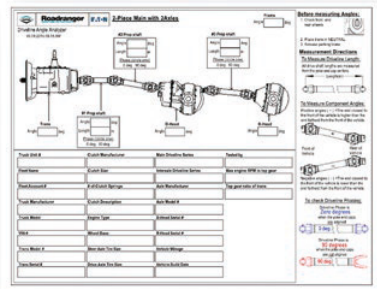
Note: Many resources are available regarding u-joint operating angles, yoke phasing, vehicle ride height, and driveline inspection; this bulletin will not cover them all.

You will need:

- Inclinometer for measuring angles and phasing
- Tape measure to measure length of tube and ride height
- Flat surface to park the vehicle and wheel chocks for stabilization
- Driveline worksheet for recordings



**Recommend using the Roadranger
DAA software and inclinometer.**



Example Roadranger DAA Worksheet

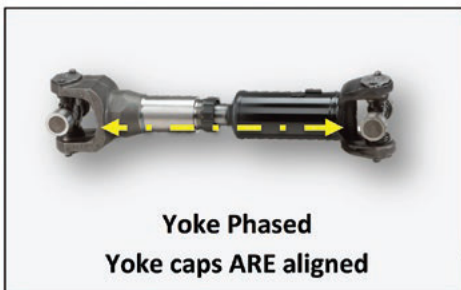
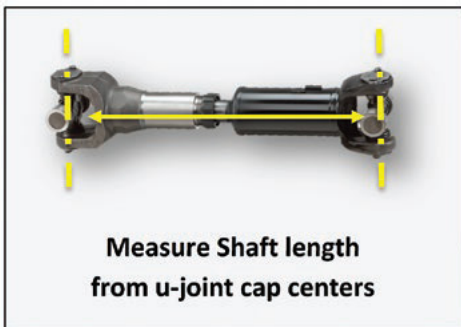
U-JOINT ANGLES

General U-Joint Angle Rules:

- i. Should have a minimum angle of 1°
- ii. Angles on each end of a shaft should ALWAYS be within 1° of each other
- iii. U-Joint angles should NOT be larger than 3°
- iv. Yoke phasing is vehicle specific & set by operating angles

Inspection:

1. Print corresponding worksheet.
2. Park the vehicle on a flat surface, chock the wheels, and release the parking brake.
3. Inspect driveline for u-joint endplay and worn components.
Note: Spicer recommends U-Joint endplay should not exceed .006
4. Measure and record angles, shaft length, and u-joint phase.
Make Corrections as needed



DRIVE AXLE TIRES

Improperly matched tandem drive axle tires will reduce tire, oil and component life and is a leading cause of premature wear and failure to driveline components!

SAFETY FIRST

Review owners manuals, service manuals, and other OE provided instructions. Confirm tires are correct for vehicle specifications and use appropriate PPE.

Note: Many resources are available regarding tire wear, size, and measurements; this bulletin will not cover them all.

You will need:

- Flat or endless tape measure to measure circumference
- Flat surface to park the vehicle
- Wheel chocks, jack and jack stands to support the axle
- Tire pressure gauge to confirm PSI is correct per specification
- Tire worksheet for recordings

DRIVE AXLE TIRES

The best method is to match drive axle tires is by circumference and not diameter or tread depth.



Example: Diameter



Example: Tread Depth

Inspection:



1. Park the vehicle on a flat surface, and chock the wheels.



2. Confirm air PSI is correct per tire specifications.

DRIVE AXLE TIRES



3. Lift the tires off the ground.



4. Measure and record the circumference of all drive tires.

Note: General rule is that tire mismatch shouldn't exceed $\frac{3}{4}$ of an inch.

ADDITIONAL RESOURCES

**FIND ADDITIONAL
TRAINING RESOURCES ON
OUR WEBSITE AND APP**



SERVICE RECORDS

DATE	MILEAGE	SERVICE PROVIDER	NOTES

DYNO TESTING

Our transmissions are rigorously tested under realistic load simulations on state-of-the-art dynamometers. This approach guarantees proper torque, leak-free performance, accurate shifting, and optimized oil flow.



Ensuring Functionality

The test replicates the demands placed on a transmission during operation, checking if it shifts gears smoothly, delivers the expected power output, and operates within normal temperature ranges.



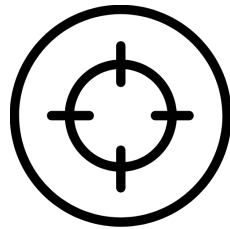
Quality Control

Rebuilt transmissions in particular undergo dyno testing to verify the quality of the rebuild process. This ensures they meet or exceed factory specifications for pressure, performance, and minimize the risk of leaks or malfunctions after installation.



Diagnostics

Dyno testing can pinpoint issues with a transmission, such as abnormal noises, vibrations, or problems with the hydraulic system or clutch packs.



Calibration

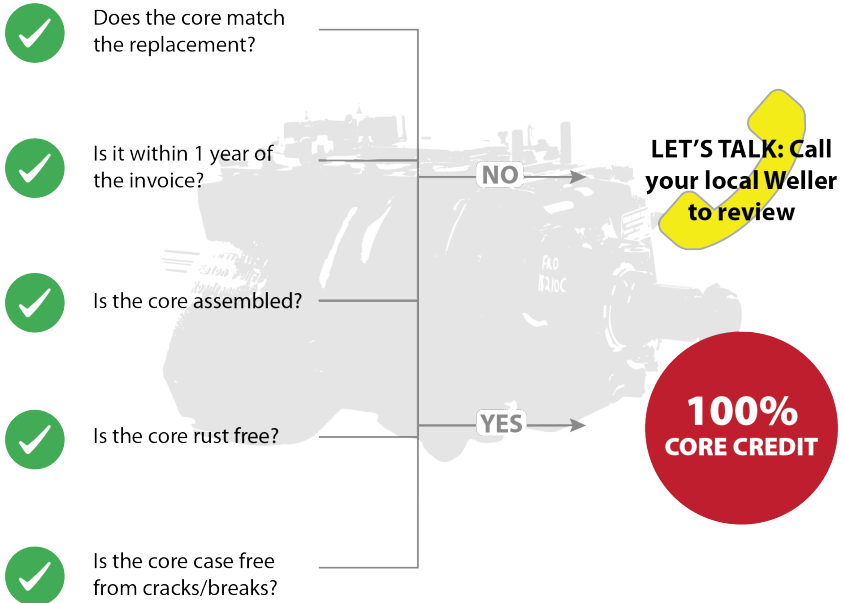
The test allows technicians to fine-tune the transmission's operation, including setting optimal shift points and pressures for improved performance and efficiency.

CORE RETURNS

Fair. Flexible. Fast.

At Weller, we value your business and strive to make the core return process as smooth as possible. Our core return policy is built on **trust and partnership**, ensuring that doing business with Weller is not only easy but also beneficial for our customers. We pride ourselves on having the most flexible core return policy in the industry, including a return window up to a full year.

This generous policy underscores our commitment to you and highlights our dedication to accommodating customer needs. While we do expect a fair rebuildable core, our primary goal is to ensure that you have a **positive and efficient** experience with us.



Don't just take our word for it.
See why Weller is the unmatched industry
leader, before and after the sale.

Our policy reveals all.



WELLER WARRANTY

At Weller, we prioritize not only the quality of our products but also the peace of mind for our valued customers. We understand that purchasing decisions are significant investments, and to underscore our commitment to your satisfaction, we proudly offer a comprehensive warranty on our products.



This warranty is a testament to our confidence in the durability and reliability of our offerings. While we take pride in crafting products of the highest standards, we recognize that unforeseen circumstances may arise. When they do, we have made the process as easy for you as possible, down to choosing the most convenient way for you to start a claim.

To learn more about our warranty and how to file a claim, scan the QR code below or visit our website.

Don't Buy the Paper. Buy the Performance.



***Learn more about the
Weller Warranty***

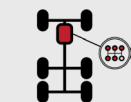
wellertruck.com/weller-warranty

***When You Choose
Weller, You Stop
Playing the
Warranty Game.***

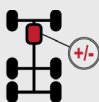
Max Uptime In Your Drivetrain When You Partner with Weller.

We are dedicated to providing best-in-class quality with unmatched value and rapid delivery. Our focus is to keep our customers and America moving.

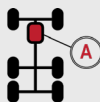
View Our Complete Drivetrain Offerings at wellertruck.com



TRANSMISSIONS
AND TRANSFER
CASES



AUTOMATED MANUAL
TRANSMISSIONS



AUTOMATIC
TRANSMISSIONS



DIFFERENTIALS



DRIVESHAFTS &
END YOKES



STEERING GEAR
BOXES AND
PUMPS



ELECTRONICS &
MECHATRONICS



**Experience
The Weller Way**



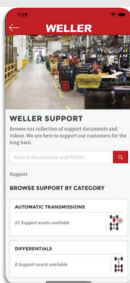
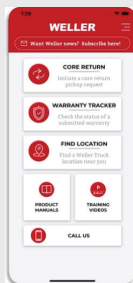
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