
PART NO.	DESCRIPTION
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STANDARD UNIT

The **Ditch Witch® FM13X** is a 11.7 horsepower gasoline powered drilling fluid mixing system. It includes an electric start, 6-gallon fuel tank, centrifugal mixing pump, venturi wet hopper system and mounting base. It is designed for use with a 500-gallon or 950-gallon mixing tank.

The **Ditch Witch® FM13X** basic unit includes the following:

- 11.7 hp gross Honda gasoline engine
- Centrifugal mixing pump
- Mixing hopper
- Ship kit

FM13X STANDARD #1

FM13X Base Unit

Includes: Basic Assembly, Electric Start Engine Sub Assembly,
Production Decal Kit, Ship Kit, Hose Adapter Kit

FLUID TANK (Select one)

400 Gallon Tank

500 Gallon Tank

Shipped with: TANK SHIP KIT, 500 GAL

950 Gallon Tank

Shipped with: TANK SHIP KIT, 950 GAL

ACCESSORIES & TRANSFER HOSE

- | | |
|----------|------------------------------|
| 101-093 | TANK FILL KIT, 950 GAL |
| 153-357 | TRANSFER HOSE (2" FHC, 50') |
| 190-1189 | TANK FILL KIT, 500 GAL |
| 190-2105 | FM13V/FM13X UPTIME KIT |

SERVICE PARTS

- | | |
|----------|-----------------------|
| 350-3360 | 400 GAL TANK ASSY |
| 350-1622 | 500 GAL TANK ASSEMBLY |
| 602-150 | 950 GAL TANK ASSEMBLY |

PART NO. DESCRIPTION

TK RECON Guidance System

The TK RECON system is a guidance system for tracking horizontal directional bores. The system is comprised of a tracker, drill rig display and beacon. The TK RECON system provides many new and enhanced features and offers the choice of (3) trackers (a single frequency, a two frequency and a four frequency tracker), (2) displays (one display is mounted in-the-console and one display mounted remotely), and multiple beacon options including the 86, 15T, 17T, 19T and 88B series. The RECON ISM Telemetry Radio provides increased communication distance and speed, but The TK RECON system will not be backwards compatible with the existing TK series, so the current TK Series trackers and displays will continue to be offered, for those customers who have that need or preference.

Trackers detect one, two or four of the following beacon frequencies depending on the model: 1.5 kHz, 12 kHz, 20 kHz and 29 kHz frequency.

Displays communicate with trackers by telemetry radios. Telemetry radios are country specific in order to adhere to specific country regulations.

Beacons generate one of four frequencies depending on the model, frequencies include 1.5 kHz, 12 kHz, 20 kHz and 29 kHz. Beacons with more than one frequency communicates with the Tracker by Bluetooth® in order to configure frequency and power level.

TK RECON4

The tracker detects 1.5 kHz, 12 kHz, 20 kHz and 29 kHz beacon frequencies and may utilize an ISM telemetry radio to communicate to the rig display, the ISM radio frequency is country specific. See corresponding part numbers below. Each Tracker comes standard with an alkaline and Li-Ion battery trays, batteries, charger and operators manual. Selectable options include, the choice between Hard Case, carry bag or nothing and between large, small or no stand. Separately, select a corresponding, country specific TD RECON or TDR RECON display.

102-1608 TK RECON4, North America Radio

approved countries are: Canada, Columbia, Mexico, Peru, United States, Venezuela

PART NO.	DESCRIPTION
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TK RECON2

The tracker detects 12 kHz and 29 kHz beacon frequencies and may utilize an ISM telemetry radio to communicate to the rig display, the ISM radio frequency is country specific. See corresponding part numbers below. Each Tracker comes standard with an alkaline and Li-Ion battery trays, batteries, charger and operators manual. Selectable options include, the choice between Hard Case, carry bag or nothing and between large, small or no stand. Separately, select a corresponding, country specific TD RECON or TDR RECON display.

102-1603 TK RECON2, North America Radio
approved countries are: Canada, Columbia, Mexico, Peru, United States, Venezuela

PART NO.	DESCRIPTION
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TK RECON1

The tracker detects a single 29 kHz beacon frequency and may utilize an ISM telemetry radio to communicate to the rig display, the ISM radio frequency is country specific. See corresponding part numbers below. Each Tracker comes standard with an alkaline battery tray, alkaline batteries and operators manual. Selectable options include, the choice between Hard Case, carry bag or nothing, between large, small or no stand or add the option to include the Li-Ion battery, tray and charging system. Separately, select a corresponding, country specific TD RECON or TDR RECON display.

102-1595 TK RECON1, North America Radio
approved countries are: Canada, Columbia, Mexico, Peru, United States, Venezuela

PART NO.	DESCRIPTION
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Commander™ 7 Display

The Commander™ 7 is used exclusively with all models of TK Recon tracker and supported beacons. The system leverages the planning capabilities of the Field Scout™ mobile through the built-in ScoutView™ application. The system provides projected depth information and offers both Classic and Advanced Drill-To guidance modes. The display utilizes an ISM radio to communicate to the tracker, radio frequency is country specific. See corresponding part numbers below. The display has internal data storage capabilities and works with TMS Plus and TSR software. The system includes all necessary cabling and antenna, display assembly, dash assembly hard case and operators manual.

102-2565 Commander 7, SV, North America
approved countries are: Canada, Columbia, Mexico, Peru, United States, Venezuela

PART NO.	DESCRIPTION
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Commander™ 7 Parts and Accessories

220-2814	CMDR 7 Competitive Mount Kit 23x30 24x40
240-7210	ScoutView
220-2633	COMMANDER 7 DEMONSTRATION KIT
222-6714	HARNESS, COMMANDER 7, DEMO
222-6720	8 PIN CONNECTOR PLUG, COMMANDER 7
222-6721	PLUG SEAL, COMMANDER 7
222-3219	LANYARD
222-6978	CMDR 7 DISPLAY 48" EXTENSION CORD (web)
222-6615	2.5" MOUNTING MAGNET, 3/8-16
222-6617	COMMANDER 7 MAGNET COVER
220-2770	Commander 7 Mag Mount Kit
222-6707	CIRCULAR RAM MOUNT 1.5" WITH 3/8-16 STUD
220-2645	COMMANDER 7 MOUNTING PLATE, JT5
222-6729	JT 20 AND 30 DASH PLATE, COMMANDER 7
222-6620	RAM, DISPLAY ARM, STANDARD
222-6719	COMMANDER 7 CARRYING CASE
222-6517	ANTENNA, 902-960MHz (Rig Antenna)
222-6519	868MHz Antenna (Rig Antenna)

Integrated Display JT24 / JT40 CAN Bridge

The CAN Bridge INT, SV, is used with integrated displays available on current Ditch Witch JT/AT40 and JT24 machines and are used exclusively with all models of TK Recon tracker and supported beacons. This Can Bridge should be ordered with applicable machines upon order configuration however can be ordered separately utilizing the appropriate part numbers below.

220-6738	RECON CAN BRIDGE INT, SV, NORTH AMERICA
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PART NO.	DESCRIPTION
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Commander™ 7 Dash Assemblies

The Commander™ 7 Dash Assy, SV, is used with Commander™ 7 Displays and are used exclusively with all models of TK Recon tracker and supported beacons. When purchased alone, the Commander™ 7 Dash Assembly allows an existing Commander™ 7 display to be shared with or moved to a second drill without having to remove any hard-mounted components from the first. This Commander™ 7 Dash Assembly is included with Integrated Displays, however, can be ordered separately utilizing the appropriate part numbers below.

220-6758 COMMANDER 7 DASH ASSY, SV, NORTH AMERICA

PART NO.	DESCRIPTION
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TD RECON Display

The display is available as an in-dash mount (TD) or remote mount (TDR). Both styles of the display presents information displayed by the tracker at a distance up to 2000 ft (609.6 m) with the UHF radio. The display utilizes an ISM radio to communicate to the tracker, radio frequency is country specific. See corresponding part numbers below. The display has internal data storage capabilities and works with TMS Plus and TSR software. The TK RECON Display works with all models of TK RECON trackers. Each display comes standard with mounting hardware required to install on drill rigs.

102-1616 TD RECON, North America Radio
approved countries are: Canada, Columbia, Mexico, Peru, United States, Venezuela

PART NO.	DESCRIPTION
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TK Recon Repeater

The TK Recon Repeater is used exclusively with all models of TK Recon tracker and displays. The system has a lightweight, compact design that is highly durable and is offered as a range extender and a tool to combat line of sight issues found on the HDD jobsite. The TK Recon Repeater leverages a simple to use, single button operation which features more than 50 hours of continuous battery life and the ability to mount to any ¼"-20 accessory.

102-1681 RECON REPEATER, NORTH AMERICA
approved countries are: Canada, Columbia, Mexico, Peru, United States, Venezuela

PART NO. DESCRIPTION

TK/TD RECON Parts and Accessories

See Tracker and Display Parts and Accessory section under the TK series for common parts such as cases, bags and stands.
See accessories below specific to the RECON series.

220-2407 TDR DISPLAY KIT
220-2769 REPEATER MAG MOUNT KIT
220-2498 Battery Tray Final Assy, Alk & NiMH
220-2500 Battery Tray Final Assy, Li-Ion
220-2575 TDR Recon Mag Mount Kit – DW 900MHz
220-2577 TDR Recon Mag Mount Kit – Other 900MHz
222-5260 TK Recon Battery Cap
222-5264 O-Ring
220-6775 LI ION BATTERY KIT
222-5521 Li Ion Btry 7.2V (TK Recon Rechargeable)
222-5592 900MHz Rubber Duck Ant/Male (Remote Ant)
222-6517 ANTENNA, 902-960MHz (Rig Antenna)
222-6519 868MHz Antenna (Rig Antenna)
222-6530 2.4GHz antenna 2.0dBi STD SMA
222-6540 Seven band external antenna, TNC

15T Beacon Transmitter

15T series beacons are available in a single 29 kHz frequency (15T1) or a three frequencies 12/20/29 kHz (15T3). They work with the TK or TK RECON tracker series. Prior to a bore, the 15T3 beacon can be configured with two of three frequencies 12 kHz, 20 kHz, and 29 kHz and can be configured with standard, high or extreme power. The 15T1 is 29 kHz and standard power level. The 15T series beacons are Grade pitch. The beacons are a universal length @ 15 in (381 mm) and an 1.25 in (31.7 mm) diameter, which fits into housings that are designed for a DCI transmitter. An optional 220-2356 hard case, batteries and isolators are available in the selectable parts section.

102-1632 15T1 Beacon, single 29 kHz frequency, standard power level

102-1588 15T3 Beacon, configurable 12, 20 or 29 kHz frequency; standard, high or extreme power levels

PART NO.	DESCRIPTION
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17T Beacon Transmitter

17T series beacon transmitters are available in multiple frequency and power options. They work with the TK or TK RECON tracker series. Prior to a bore, the 17T4 and 17T4G beacons can be configured with two of four frequencies 1.5 kHz, 12 kHz, 20 kHz, and 29 kHz. It can also be configured with standard, high or extreme power. The 17T1 is 29 kHz and standard power. The 17T1H is 29 kHz and high power. "G" designates Grade pitch, everything else is Standard Pitch. The beacon comes standard with flat-top/half-moon isolators for side-load housings. An optional 220-1090 hard case, batteries and other isolators are available in the selectable parts section. Length is 17.8 in (452 mm), diameter is 1.5 in (38 mm).

102-1715	17T1 BEACON, BASE UNIT
	29 kHz frequency, standard power level
102-1716	17T1H BEACON, BASE UNIT
	29 kHz frequency, high power level
102-1717	17T4 BEACON
	1.5, 12, 20 and 29 kHz frequencies; standard, high or extreme power levels, standard pitch

PART NO.	DESCRIPTION
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Beacon Parts and Accessories

220-2356 Beacon Case, 15T
220-1090 Beacon Case, 17T/86BV3/850B
220-1091 17T4G/850BG CASE ASSY & ACCESSORY KIT
220-2565 CASE ASSEMBLY, 19T3
220-2578 ASSEMBLY, BATTERY CAP 17T
220-2794 17T Battery Cap Update Kit
908-4304 ISOLATOR, 1.5 IN DCI FRONT
908-4295 ISOLATOR, DCI UNIV REAR
906-2624 SLEEVE, 86 BEACON
906-2702 SLEEVE, DCI SONDE

Repair Modules

220-2535 17T1 BEACON REPAIR ASSEMBLY
220-2536 17T1H BEACON REPAIR ASSEMBLY
220-2537 17T4 BEACON REPAIR ASSEMBLY

PART NO.	DESCRIPTION
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Tracker and Display Parts and Accessories

220-2239	TDR Mag Mount Kit - Ditch Witch for USA, Canada, Australia, and Russia
220-2248	TDR Mag Mount Kit - DW Low Freq for Germany, Sweden, & Other European Union Countries
220-2247	TDR Mag Mount Kit - Other Drill for USA, Canada, Australia, and Russia
220-2249	TDR Mag Mount Kit - Other Drill Low Freq for Germany, Sweden, & Other European Union Countries
220-2225	PLATE, RAM Mount
222-4411	Tracker Base Mount Small
222-4105	Tracker Base Mount Big
222-5446	3220 HARD CASE, TK SYSTEM
220-2383	Carry Bag, W/ Blank Strap (830)
222-4163	750 TO TD JUMPER
222-4166	ON-DASH CONTROL HARNESS
222-4191	ARM, DOUBLE SOCKET, 1" BALL, COMPOSITE
222-4302	Cable Assembly, SMA – BNC, RG174
222-6212	TK EVA CASE, COMBO
220-2661	TRACKER SWIVEL BASE MOUNT

Trac Management System (TMS) Plus

Trac Management System (TMS) Plus is an integrated planning and mapping system for Horizontal Directional Drilling. The TMS Plus will work on any Jet Trac® equipped with the required Subsite® systems. Requirements for the TMS Plus include a TD / TDR Display, a TK / TKD / TKQ Tracker, 750 / 752 Display, a 750 / 752 Tracker and any Ditch Witch® pitch beacon. A computer capable of running Windows 95 or higher is needed. The TMS Plus Kit includes a cable to connect from the unit to the computer, a software disc, and a manual.

220-054	TMS PLUS CD ONLY OPTION
220-1006	TMS Plus Dealer CD
222-2335	USB DATA CABLE

PART NO. DESCRIPTION

DrillLok™ Remote/Base

DrillLok™ is a remote disable feature that incorporates a "report" feature from the HDD unit back to a Handheld device. The report provides an indication to the tracking crew that the rig is disabled there by locking out any inadvertent motion of the drill string.

102-1552 DrillLok™ Paired, US, Basic Unit

approved countries are: USA, China, Columbia, India, Malaysia, Mexico, Thailand, Venezuela

DrillLok™ Mounting Accessories**JT5**

Shipped with: 350-4268 JT5 REMOTE DRILL LOCK

JT9

Shipped with: 350-2653 MOUNTING ASSY

JT20

Shipped with: 215-2288 RIG DISABLE HARNESS

JT25

Shipped with: 350-2653 MOUNTING ASSY

JT30 / AT30

Shipped with: 215-2288 RIG DISABLE HARNESS

JT40

Shipped with: 350-2653 MOUNTING ASSY

JT60 / AT60

Shipped with: 350-2653 MOUNTING ASSY

JT100 / AT100

Shipped with: 350-2653 MOUNTING ASSY