KRAMBLE INDUSTRIES INC.

Remote Control Tarp Arm Kit S6

Installation and Operating Manual

The Remote Control Tarp Arm Controller is designed to provide the ultimate in convenience and safety to perform tasks remotely. It is a radio frequency (RF) controlled device that allows operation of a tarp from a hand held transmitter operated remotely. The Transmitter, which operates at 900 MHz FM, transmits encoded information to the Receiver, which then decodes the information and performs the desired function. The Transmitter and Receiver are designed to operate within 585' but actual range is dependent on operating environment.

Features

- Simplicity of design and quality of engineering
- User selectable security code
- Power On/Off switch on Receiver
- LED Indicator lights
- 9V Transmitter Battery
- Ease of installation/removal when not in use
- All controls can be by either Manual Switch or Remote Control
- Multiple Transmitters can operate a single Receiver/Drive
- Multiple Receiver/Drives can be operated by a single Transmitter
- Receiver/Drives are “Channel selectable”

Kramble Industries Inc. is not responsible or liable for indirect, special, or consequential damages arising out of or in connection with the use or performance of the product or other damage with respect to any economic loss, loss of property, loss of revenue or profit, or costs of removal, installation, or reinstallation.

Table of Contents

Table of Figures

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Specifications

Transmitter:

Power:	9 Volt DC Battery
Frequency:	900 MHz
Modulation:	FM
Indicators:	Power/Transmit Red LED
Case Size:	2.6” x 4.1” x .9”
Weight:	.25lb
Range:	585’ + (depending on environment)
Antenna:	On-module Tuned
Security Code:	Unique in each Transmitter
Functions:	2 to 9 Button (depending on model)

Receiver:

Power in:	12 VDC
Power out:	12 VDC @ 100 amps max
Standby:	40mA
Power Input:	2/4 ga. 2 conductor wire
Indicators	Power On Red LED
	Receive RF Data Yellow LED
	Channel Active Green LED
Controls	Main Power On/Off Pushbutton
	Manual Open/Close Pushbutton Control
Antenna	On-module Tuned

Electric Motor Drive:

Electrical	12VDC 1.3HP
Torque	
Speed	
Output Shaft	¾” keyed and drilled
Gearbox Reduction	90:1
Duty Cycle	5%
Overall Size	
Weight	

FCC

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Industry Canada

This device complies with Industry Canada license exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Kramble Industries Inc.
20-3924 Brodsky Avenue
Saskatoon, SK. S7P 0C9
Sales: 306-933-2655
sales@kramble.net
Service: 306-933-2689
service@kramble.net
www.kramble.net

Electrical Installation

The Tarp Arm Controller is provided with pre-wired connectors and terminals. The polarity **must** be correct as follows: **+12V on the RED STRIPE wire**. A supplied 100A circuit protector is to be installed on the tractor battery to protect against a wiring "short".

WARNING: Do not attempt to power the console or drive from a battery charger alone as damage may occur. Connect to a properly maintained battery system only.

To Reverse the Direction of Operation:

If the Tarp Arm Controller drive is running in the wrong direction when operated, reverse the **Red and Black wires on the terminals connecting to the motor case.**

To Change the Transmitter Channel Control: Refer to Channel Select instruction.

Drive Cabling

The Tarp Arm Controller is supplied with 4 gauge power.

CAUTION: The 100Amp Circuit Fuse Assembly provided MUST BE connected directly to the +12VDC Terminal of the battery to protect against an electrical short in the wiring.

NOTE: ENSURE CORRECT POLARITY! The RED STRIPE/MARKED wire must be connected to +12 VDC.

Think Safety!

Do no install or operate where damage to persons or property may occur

General Operation

Receiver

The Receiver is equipped with a Power On/Off button on the outside of the case. When the button is pressed, the Red LED will light indicating normal operation. Press the Power On/Off button again to turn power off.

The Tarp Arm Controller can be operated using the Transmitter, or alternatively, by operating the OPEN/CLOSE momentary pushbutton switches on the Receiver. When the Tarp Arm Controller is operated, a Green LED indicating output power to the motor will be lit. When input is received from the Transmitter, the Yellow Receive LED will light as well.

Figure 1 Receiver Console

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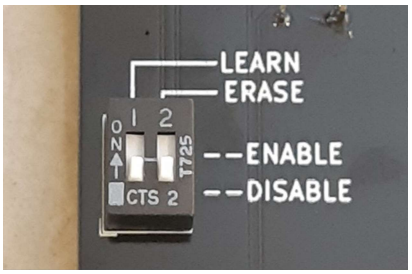
Diagnostic Indicators:

There are three ways that the Receiver may use to indicate to the operator that a problem has been encountered:

1. LOW VOLTAGE: If “low voltage” supply occurs to the drive, the drive will continue to operate but will reduce speed automatically to maintain maximum torque. The tarp’s green activity LED will blink slowly (approximately once per second) to indicate this condition. “Low voltage” is defined as less than 10 volts supply. The “blinking” status will remain until the supply voltage returns to proper level or the unit is turned off. Check the battery condition and clean/inspect all electrical connections if this condition arises.
2. HIGH TEMPERATURE: If the temperature of the motor controller becomes too high, the green activity LED will flash rapidly (approximately three times per second) to indicate this condition. The high temperature indication will remain and the drive will not operate until the motor controller has cooled. Check to ensure the tarp moves freely or otherwise determine the source of the excess load that the drive is working to overcome.
3. CURRENT OVERLOAD PROTECTION: If a “current overload” status occurs, the Tarp Arm Controller drives are protected by a 100 Amp auto-resetting thermal breaker (fuse) installed at the tractor battery which disconnects the cabling and drives. This fuse trips with an audible “click” and the receiver will not operate until the fuse cools and resets (generally about 15 seconds). The receiver may need to be manually turned on after the fuse resets.

The Receiver is matched to a Transmitter by “learning” the transmitter’s unique security code so that the receiver will accept commands from that transmitter. The security code is provided to prevent unwanted operation of the Receiver by other devices. When the transmitter and receiver are matched and the transmitter "talks" to the Receiver, the yellow “RECEIVE” light will come on. A newly-purchased system already has its transmitter matched to the receiver. It is also possible to erase all stored security codes if desired. The Receiver is equipped with a two-position switch to enable or disable the learn and erase functions. To enable or disable a function, open the case and locate the switch as illustrated below. The switches and their positions are labeled on the circuit board. Newly-purchased systems are set by default so that both functions are enabled.

Figure 2 Learn/Erase Switches



To match a transmitter to a receiver:

1. Turn the receiver power switch OFF.
2. Hold the STOP button on the receiver and turn the receiver power ON, then release all buttons. The Receive/LEARN light is then lit to indicate that the receiver is waiting for a signal from the transmitter to be learned.
3. With the transmitter's slide switch set to Standby, press the up button on the transmitter for the channel you wish use to control the receiver. The receiver will read the transmitter's security code and the desired channel and store them in memory. The Receive/LEARN light will flash slowly to indicate that the transmitter has been successfully learned, and the receiver will then enter normal operating mode.

Up to eight transmitters can be learned by a receiver, and each transmitter may use a different channel to control the receiver. If eight transmitters have already been learned by a receiver and it is instructed to learn another transmitter, the oldest-learned transmitter will be overwritten and forgotten.

To erase all stored security codes, first set the internal switch maker ERASE to ENABLE. Turn the receiver power ON while holding the LEARN button, and continue holding the button until the Receive/LEARN light begins to rapidly flash. Release the button, and the light will flash more slowly for three seconds, then will turn off to indicate that the erase operation has succeeded. If the LEARN button is pressed while the Receive/LEARN light is slowly flashing, the erase operation is aborted and the receiver retains the stored transmitter security codes.

The Receiver power should be turned OFF when not in use to prevent undesired operation.

Transmitter

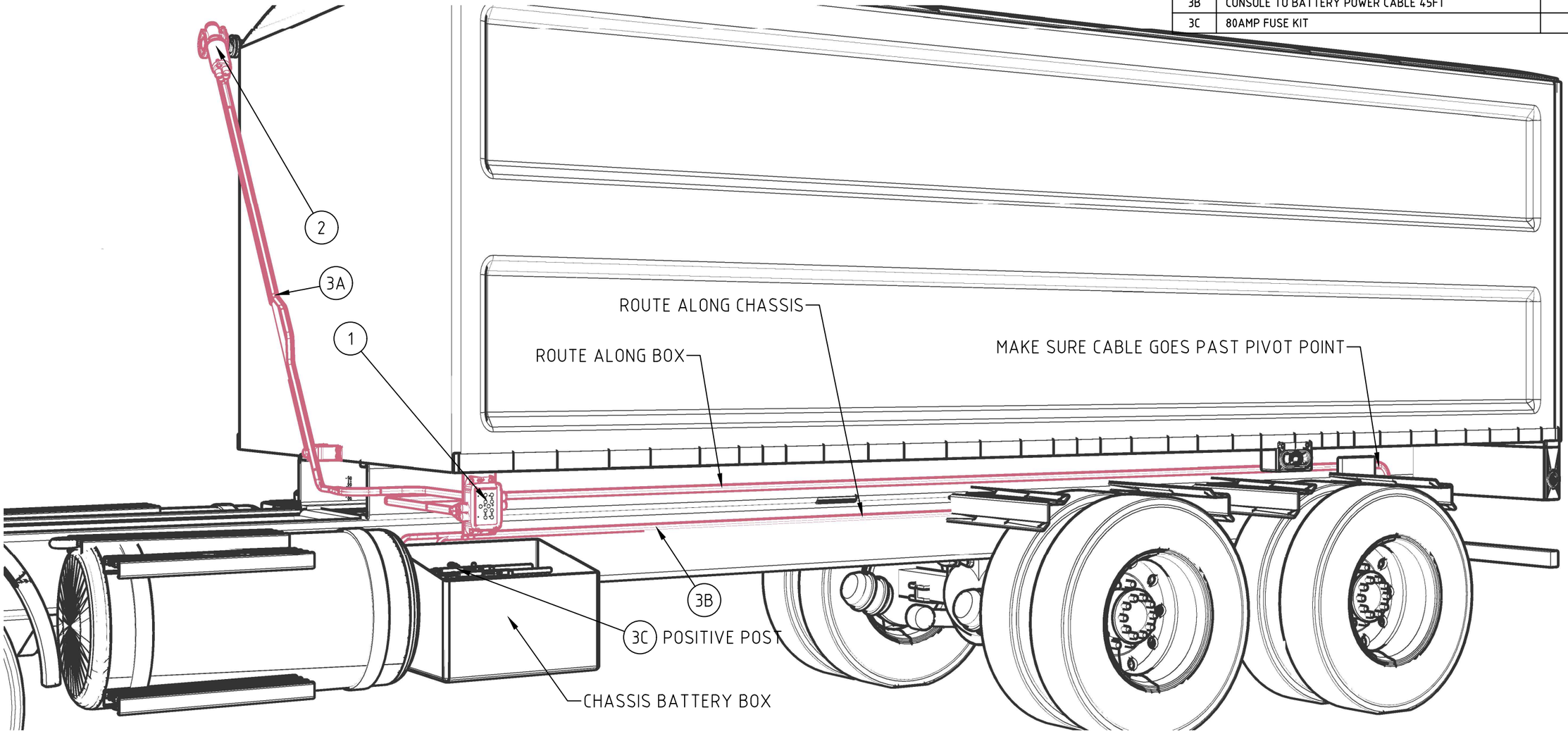
The Transmitter is powered by a 9V battery which, when installed, should light the red "power" light when the OFF/STANDBY switch is in the STANDBY position and a function switch is pressed. If the battery does not exceed 7 volts the Power light will not light, indicating battery replacement is required.

Figure 3 Transmitter

Each transmitter contains a unique identifying security code that is transmitted to the receiver during RF operation. Up to eight Transmitters can communicate with the same Receiver as long as the receiver has learned the transmitters' security codes.

The OFF/STANDBY switch (if equipped) must be in the STANDBY position before the Transmitter can be activated to prevent unintentional operation of the Receiver. The OFF/STANDBY switch does not control the Red led but the RED Led will NOT turn on when a transmitter function button is pressed if the switch is in the OFF position. To control the Receiver, slide the OFF/STANDBY switch to STANDBY, then press the desired channel function buttons. Slide the switch to OFF when no control is desired. The transmitter does not use any battery power with the switch in the STANDBY position unless a channel function control button is also pressed.

ITEM	DESCRIPTION	PART#	QTY
1	MULTICHANNEL SYSTEM 1 CHANNEL	87102	1
2	TELESCOPIC TARP ARM KIT	19600	1
3A	ARM TO CONSOLE POWER CABLE 15FT		1
3B	CONSOLE TO BATTERY POWER CABLE 45FT		1
3C	80AMP FUSE KIT		1



REV.	DESCRIPTION	DATE	BY
0	ISSUED FOR USE	24APR18	A.REID

BREAK ALL SHARP EDGES
CHAMFERS 0.015"
RAD. & FILLET 0.125"

3RD ANG. PROJ

STANDARD TOLERANCES	
DIMENSION (IN)	TOLERANCE (IN)
XX.XXX	±0.005
XX.XX	±0.020
XX.X	±0.040
FRAC.: ±1/16	ANGULAR: ±1°

SECTION:	ASSEMBLY	
SCALE:	1:40	
DESIGN. BY:	A.REID	24APR18
DRAWN BY:	A.REID	24APR18
APP. BY:		

KRAMBLE INDUSTRIES

GRAIN TRUCK MULTICHANNEL SYSTEM TARP ONLY

DRAWING NUMBER	REV.
23-EGH-152	0

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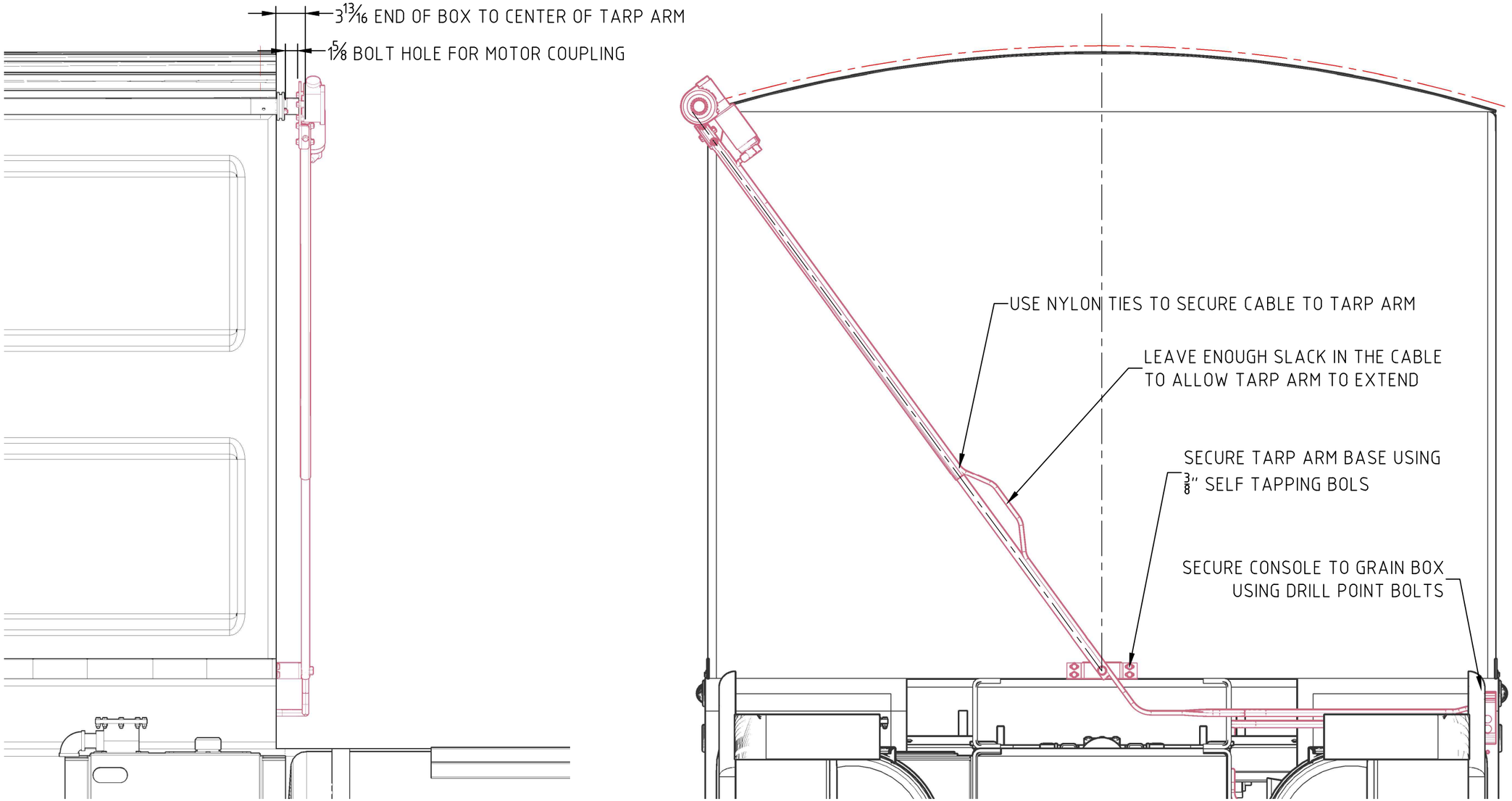

REV.	DESCRIPTION	DATE	BY
0	ISSUED FOR USE	24APR18	A.REID

BREAK ALL SHARP EDGES
CHAMFERS 0.015" RAD. & FILLET 0.125"

3RD ANG. PROJ

STANDARD TOLERANCES	
DIMENSION (IN)	TOLERANCE (IN)
XX.XXX	±0.005
XX.XX	±0.020
XX.X	±0.040
FRAC.: ±1/16	ANGULAR: ±1°

SECTION: **INSTALLATION**
SCALE: **N.T.S.**
DESIGN. BY: **A.REID** **24APR18**
DRAWN BY: **A.REID** **24APR18**
APP. BY:

KRAMBLE INDUSTRIES

GRAIN TRUCK FRONT TARP ARM MOUNTING DETAIL

DRAWING NUMBER	REV.
23-EGH-153	0

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Figure 4 Telescopic Tarp Arm Mounted on a Tandem Grain Truck

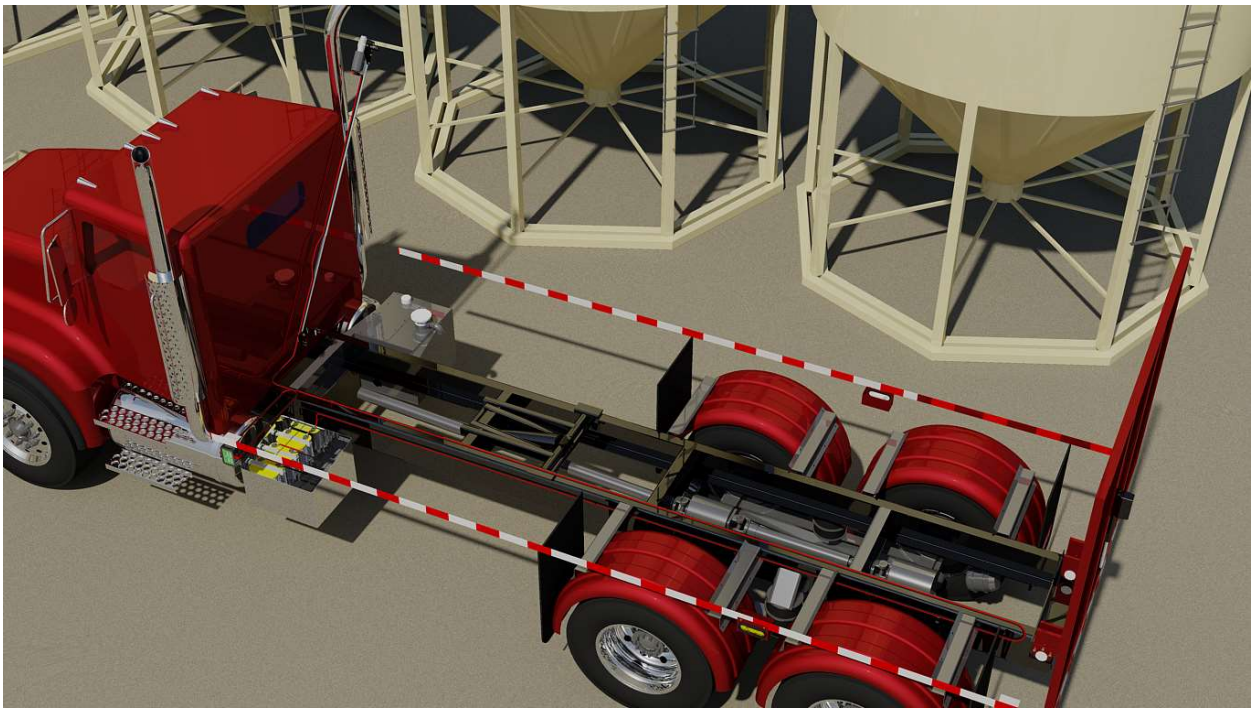

Figure 5 Telescopic Tarp Arm Mounted on a Grain Trailer

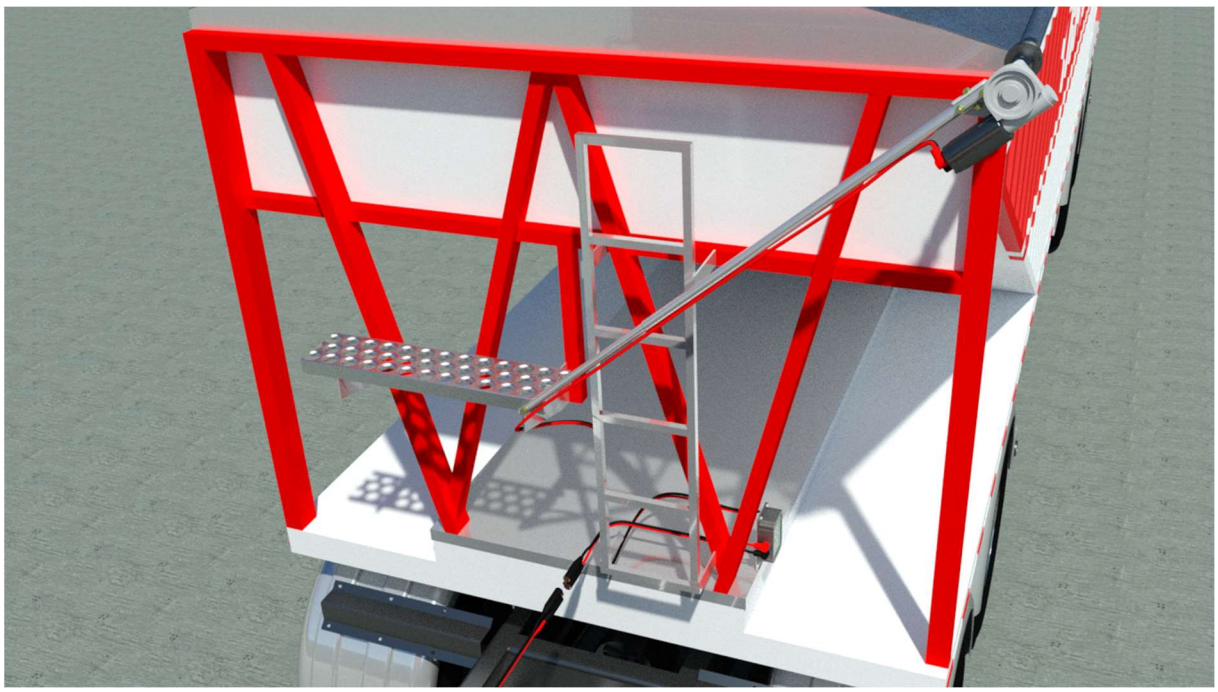

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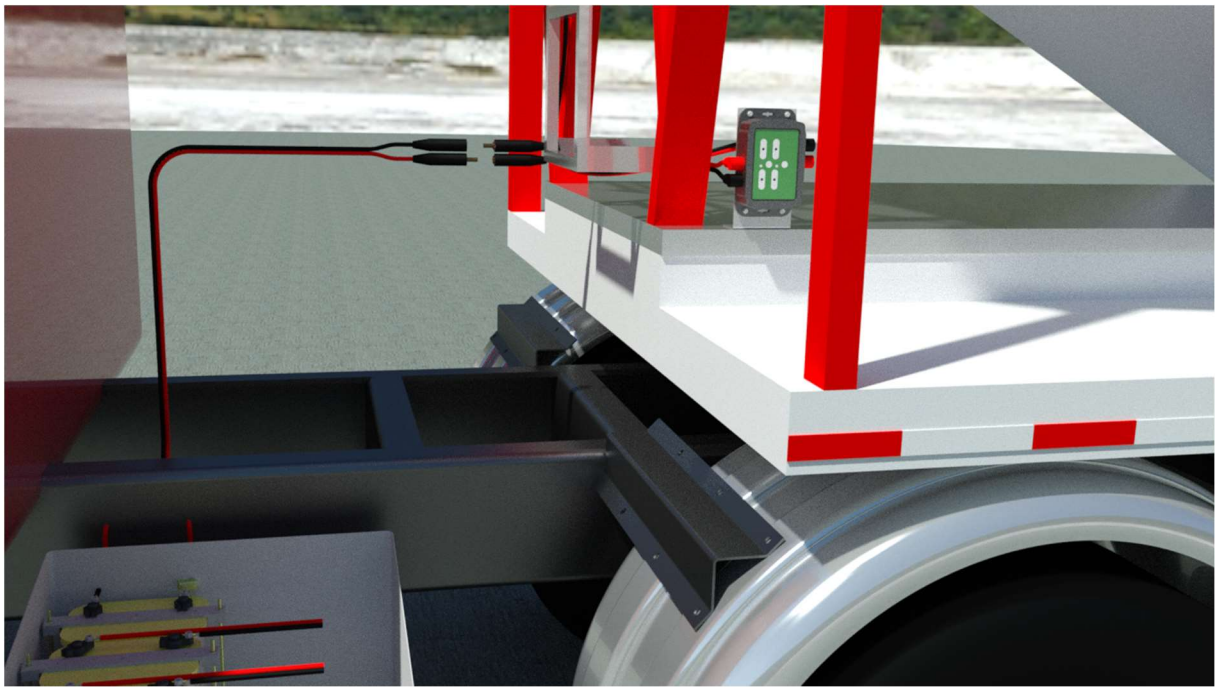
Figure 6 Telescopic Tarp Arm Control Box Mounting



Limited Warranty

Customer satisfaction is a fundamental policy at Kramble Industries Inc. All customers can rely upon and expect to receive prompt, efficient and courteous service on all Kramble Industries Inc. manufactured equipment from each and every employee of the organization.

Kramble Industries Inc. with its office at 20-3924 Brodsky Avenue, Saskatoon, SK warrants:

To the Original Purchaser/User, each product manufactured by Kramble Industries Inc. to be free from defective material and workmanship, under normal use and service, for a period of 12 months subject to conditions outlined below. The obligation under this warranty is limited to repair, or replacement with a similar genuine company part, for any part of the product of the company's manufacture that is found to be defective.

Warranty period begins the day of purchase. During the first (1st) through the twelfth (12th) month, Kramble will furnish without charge, F.O.B. its plant, a similar genuine part to replace any part of a product of the company's manufacture which proves to be defective, in normal use and service, during this time. Labor to install or repair such parts will be absorbed by Kramble Industries Inc. If this work is to be done other than Kramble personnel, prior approval must be given by Kramble Industries Inc. as to rate and time.

This warranty shall bind the company only as follows:

The warranty shall be limited to the repair or replacement of defective parts, all other damage, loss, cost or obligation and claim whatsoever, statutory or otherwise, are hereby waived by the original purchaser\user, and again, the warranty hereby given covers only those labor charges specifically authorized by the company in advance.

- The warranty shall not apply to any failure, or damage incurred through neglect, lack of maintenance, misuse, abuse, accident, improper installation, re-designing of assemblies, ignorance, or through any other cause beyond the control of the company.
- The warranty does not cover products of other manufacturers beyond such warranty as may be made by such manufacturer.
- The warranty shall not apply to normal maintenance services, or to deterioration of appearance of items due to normal use and exposure.
- The warranty shall not apply when the original purchaser/user has allowed repair and/or service work to be conducted on the product without authorization from the company.

IMPORTANT NOTE:

Before any warranty work is done, contact Kramble Industries Inc. for authorization. Failure to do so may result in denial of warranty.

Kramble Industries Inc. is not responsible or liable for indirect, special, or consequential damages arising out of or in connection with the use or performance of the product or other damage with respect to any economic loss, loss of property, loss of revenue or profit, or costs of removal, installation, or reinstallation.