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Dual Stock Reel Adjustable

Motorized and Drag Models: DSRA 200, 400, 600

Table of Contents

Thank you for selecting our product for your coil handling needs. This manual will provide you with all the information necessary to install, operate, apply and maintain your machine. Safety is always a priority so please follow all the caution and warning stickers labeled on our machines.

1 Introduction

Please read this manual thoroughly before installing, operating, applying and maintaining this machinery. Failure to do so may result in serious injury to yourself and/or others.

1.1 General Safety program

Accident free operation will result from a well developed, management sponsored and enforced safety program. Of vital importance to any successful program is the proper selection of guards and devices. However, there is no safety device that will bring “automatic” safety to your operation.
Of equal importance to this proper selection of the guard and the device is the training of your personnel. Each person must be trained as to the operation of the guard or safety device, highlighting why they have been provided on the equipment. Rules for safe operating should be written and enforced at all times. A final major concern of an effective safety program is regularly scheduled inspection and maintenance of all of the equipment.
To ensure continued safety at all times, top management, line supervision, safety engineers and all employees must assume their proper share of the responsibility in the program. Only as a group, one that knows your own operation and its problems, can you carry out an effective safety program.
To assist you in the development of and continued use of safety programs, many safety minded groups have made guidelines available to you. However, you must know when and how to apply these guidelines. The manufacturer provides information to assist you in properly adjusting and maintaining your equipment. There is no short cut to proper safety; therefore, it is recommended that you comply with their recommendations at all times.

1.2 Warning

This equipment offers various means of operating or controlling machines. The operator must not be in or near the point-of-operation of the machine, or the operating parts of any equipment installed on the machine, or bodily injury could result. The EMPLOYER must post adequate warning signs onto the machine with proper warnings for his machine and the specific application to which the machine and equipment are being applied. Occupational Safety and Health Act (OSHA) Sections 1910.211, 1910.212, and 1910.217 contain installation information on the distance between danger points and point-of-operation guards and devices. No specific references have been made to which paragraph of OSHA 1910.211, 1910.212, 1910.217 or any other applicable sections because the paragraphs may change with each edition of the publication of OSHA provisions. All equipment manufactured by us is designed to meet the construction standards of OSHA in effect at the time of sale, but the EMPLOYER installs the equipment so the EMPLOYER is responsible for installation, use, application, training, and maintenance, as well as adequate signs on the machine onto which this equipment will be installed. Remember, OSHA says that the EMPLOYER must use operating methods designed to control or eliminate hazards to operating personnel. It shall be the responsibility of the EMPLOYER to establish and follow a program of periodic and regular inspections of his machine to insure that all their parts, auxiliary equipment, and safeguards are in a safe operating condition and adjustment. Each machine

should be inspected and tested no less than weekly to determine the condition of the machine. Necessary maintenance or repair of both shall be performed and completed before the machine is operated. The EMPLOYER shall maintain records of these inspections and the maintenance work performed.
Our Company is not responsible to notify the user of this equipment of future changes in State or Federal laws, or construction standards.

1.3 Warranty Program

We warrant our new parts against defects under normal use and service for a period of 12 months after date of shipment. Our obligation under this warranty is limited to replacing or repairing (at our option) the defective part without charge, F.O.B. our plant in Bloomfield, Connecticut. The defective part must be forwarded to our plant, freight prepaid, for our inspection prior to replacement or repair**. EXCEPT AS EXPRESSLY PROVIDED HEREIN, THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING A WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**
Furthermore, the seller does not warrant or represent that the equipment complies with the provisions of any law, particularly including the Occupational Safety and Health Act of 1970, and regulations promulgated there under. In no event shall we be liable for special, indirect incidental or consequential damages, however rising.

1.4 Receiving and Inspection

SPECIAL NOTE: P/A INDUSTREIS INC. ASSUMES NO RESPONSIBILTIY IN CONNECTION HEREWITH, NOR CAN IT BE ASSUMED THAT ALL ACCEPTABLE SAFETY MEASURES ARE CONTAINED IN THIS PUBLICATION, OR THAT OTHER ADDITIONAL MEASURES MAY NOT BE REQUIRED UNDER PARTICULAR OR EXCEPTIONAL CIRCUMSTANCES OR CONDITIONS.

RECEIVING INSPECTION

Before removing the unit from its packaging, check for visual damage, especially if crate, skid, or carton had been damaged in transit. Any damage caused by shipping should be immediately reported to the carrier. If the unit appears in satisfactory condition, remove all the packaging. Read these instructions. They are provided to answer questions regarding the Operation and use of this equipment.

2 Installation and Assembly

2.1 Mechanical

The P/A Dual Stock Reel is mounted on a turntable base to minimize the time lost in production from reloading a new coil for unwinding to replace the last one, which ran out, or unloading a rewound coil after it has reached full size. The mechanism and operation of the two individual reels included in the dual unit is described in P/A instruction #816.

The Dual Stock Reel's rotating base ring must be locked to the fixed base ring in either of its two working positions, with the foot pedal. Locate the unit in your material line so that the coil on the working reel is centered to the production machine. The plan view of the typical arrangement for an unwinding line is shown in the section 2.3 Mechanical Parts Assembly Drawing of this document.

Warning:
The fixed base must be lagged to the floor. To prevent accidental tipping of the unit, minor dislocation from its working spot by bumping from coil handling equipment or from banging the unit against its mechanical stop during turn around with a heavy coil on the reel.

2.2 Electrical

See schematic.

3 Setup and Operation

A new coil may be loaded for unwind, or a full coil unloaded after rewind. This is done from the idle side of the reel, while the other side is running.

Warning:
The rotating base must be locked to the fixed base after each turn-around, before operation is started again.

On Adjustable Jaws Models, the crank handle for jaw adjustment is applied to the inner shaft of the idle reel from the aisle side (different from P/A Single Stock Reel models).

Caution:
The crank handle must be removed from the inner shaft extension before rotating an idle reel into working position.

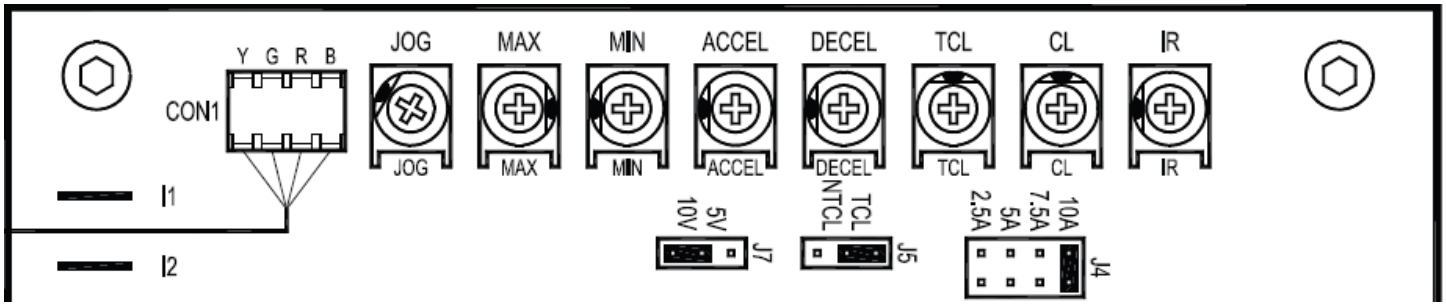
Motorized dual stock reels include a Reel Drive Selector Switch, to direct the control signal from Loop control device, to the motor for the working side of the reel.

Warning:
The operator must change the reel drive selector switch position during each turn-around.

The rotating base has a pair of mechanical stop bolts that allow turning the unit only halfway around, and then back again. This is to prevent windup of the electrical power cord or externally mounted loop control cord on models, which include them.

Warning:

Repair the stop bolt if it is ever damaged (sheared off for any reason).



Inside of the KB control you will see a set of potentiometers at the top of the control. These trim pots are used to adjust the following parameters jog, max, min, acceleration and deceleration. TCL, CL and IR are preset and should not be adjusted please call the PA service department if you need to adjust these pots. The min and max trim pots set the minimum and maximum speed of the motor. If you set the max too high then you will receive a red CL indicator light (See Troubleshooting). If you receive a red CL light, simply dial the trim pot back until you no longer get the red light.

NOTE: Do not adjust trimpots with main power on.

4 Maintenance

4.1 Mechanical

Check belt yearly for any signs of severe wear.

Grease never has to be changed in gearmotors.

5 Specifications

5.1 Overall Model Specifications

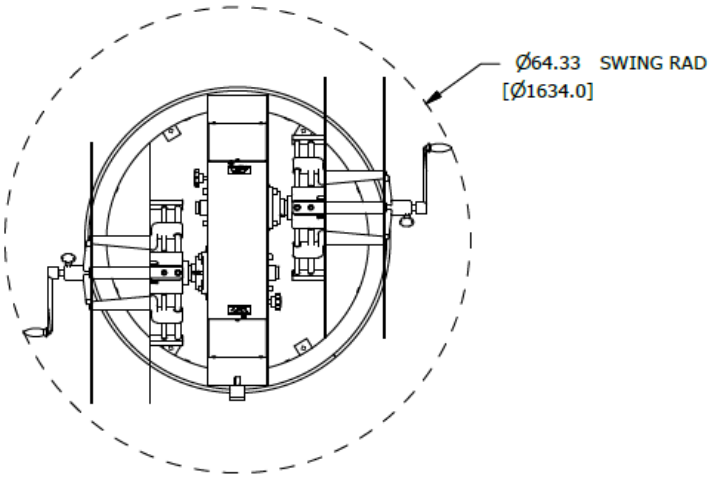
Model	Max Coil Weight lbs(Kg)	Max Stock Width in(mm)	ID Range in(mm)	Keeper Disc OD in(mm)	Speed Range (RPM)	Drive Motor HP(kW)	AC Power Input V/Ph/Hz
DSRA200	200(90)	8(200)	6-17(150-430)	24,30,36(600,760,915)	N/A	N/A	N/A
DSRA400	400(180)	8(200)	6-17(150-430)	24,30,36(600,760,915)	N/A	N/A	N/A
DSRA600	600(270)	8(200)	8-18(200-460)	24,30,36(600,760,915)	N/A	N/A	N/A
DSRA200D	200(90)	8(200)	6-17(150-430)	24,30,36(600,760,915)	0-28	120/1/60	120/1/60
DSRA400D	400(180)	8(200)	6-17(150-430)	24,30,36(600,760,915)	0-28	120/1/60	120/1/60
DSRA600D	600(270)	8(200)	8-18(200-460)	24,30,36(600,760,915)	0-28	120/1/60	120/1/60

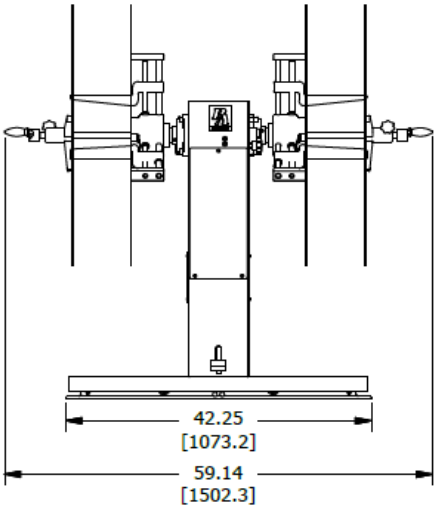
5.2 Parts List

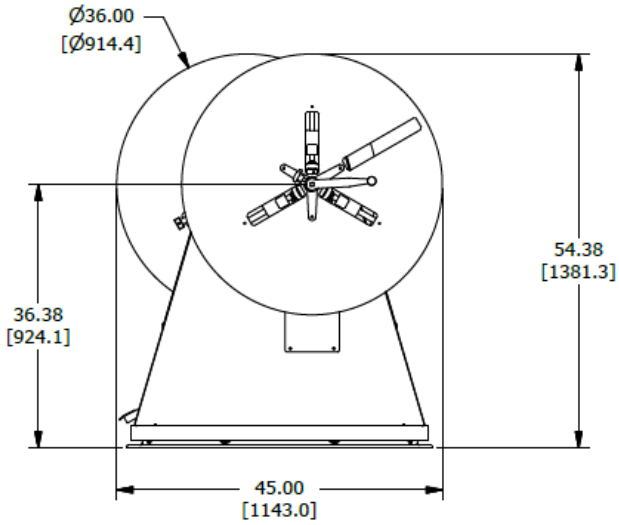
Item#	Part#	Description	Qty
1	12441-11	COLLAR, CLAMP, 3/4 BORE	2
2	15665	HUB, 1.937 BORE, SRA400/600	2
3	15553	OUTER SHAFT, 400/600	2
4	14530	GEAR, MITER, 20T, SRA 400/600	6
5	14531	LEAD SCREW, 3/4-16 THD, SRA 400/600	6
6	14532	GUIDE ROD, 0.750 DIA, SR 400/600	6
7	14542	TIE BAR, SRA 400/600	6
8	14529	GEAR, MITER, 20T	2
9	12128-40	BUSHING, BRONZE, 0.750 ID X 1.0 OD X 0.750 LG.	16
10	12128-44	BUSHING, BRONZE, 0.625 ID X 1.0 OD X 1.0 LG.	6
11	14977	KNOB, 2.38 DIA X 3/8-16 THD X 1.0 LONG	2
12	14465-02	KEEPER DISC, 18in DIA X 0.09 THICK	2
13	16911	JAW, SRA 400	6
14	935031-05	5/16-18 X 1/2 LG, SOCK SET SCRW, FLAT PT, BLK	6
15	14522-05	CRANK, 8”, DSRA 400/600	2
16	15282	SHAFT, INNER, DSR 600\400	2
17	14516-33	KEEPER DISC, UNIVERSAL, 36" DIAMETER	4
18	19549-03	WELDMENT CAB ASSY DSRA2/4/600 NON MOTOR	1
19	15545-03	BRAKE DISC, 7.0 DIA x 1.937 BORE	2
20	15104-04	KEY, 3/8 SQ X 1 1/4 LONG	2
21	12416-15	KNOB, PLASTIC FLUTED KNOB, 3/8 BORE	2
22	15502	BRAKE, ADJ SCREW	2
23	900050-14	1/2-13x1 3/4 LG, SHCS, BLACK	8
24	900050-08	1/2-13x1.0 LG, SHCS, BLACK	4
25	12133-18	BEARING, 4 BOLT FLANGED, 1.937 BORE	2
26	12133-05	BEARING, 4 BOLT FLANGED, 1 7/16 BORE	1
27	12117-11	BEARING, BALL, 1.0 ID x 2.0 OD x .56 W*	8
28	902050-12	1/2-13x1 1/2 LG, BHCS, BLACK	8
29	958050	1/2, FLAT WASHER, SAE	8
30	15222	COVER, FRONT, 7.5 x 7.9 x 20 Ga	2
31	15503	BRAKE PAD	4
32	15242	COVER, CABINET, DSRA12/1500	2
33	15501	BRAKE CALIPER	2
34	919039-08	3/8x1.0 LG, SHLDR SCR, SOC HD	1
35	12036-38	3/8x1.0 LG, SHLDR SCR, SOC HD	1
36	16658	STOP BRACKET ASSY, DSRA2/4/600	1
37	16644	PEDAL, DSRA	1
38	942038	3/8-16, HEX NUT, NYLON INSERT LOCK NUT	1
39	902038-06	3/8-16x3/4 LG, BHCS, BLACK	4
40	16646	PIN, .5 DIA x 3.5 LG	1
41	12442-24	SPRING, .975 OD x 1.25 FREE LENGTH	1
42	972P18-12	.187 DIAx1 1/2 LG, ROLL PIN	1
43	940038ZP	3/8-16, HEX NUT, ZP	4

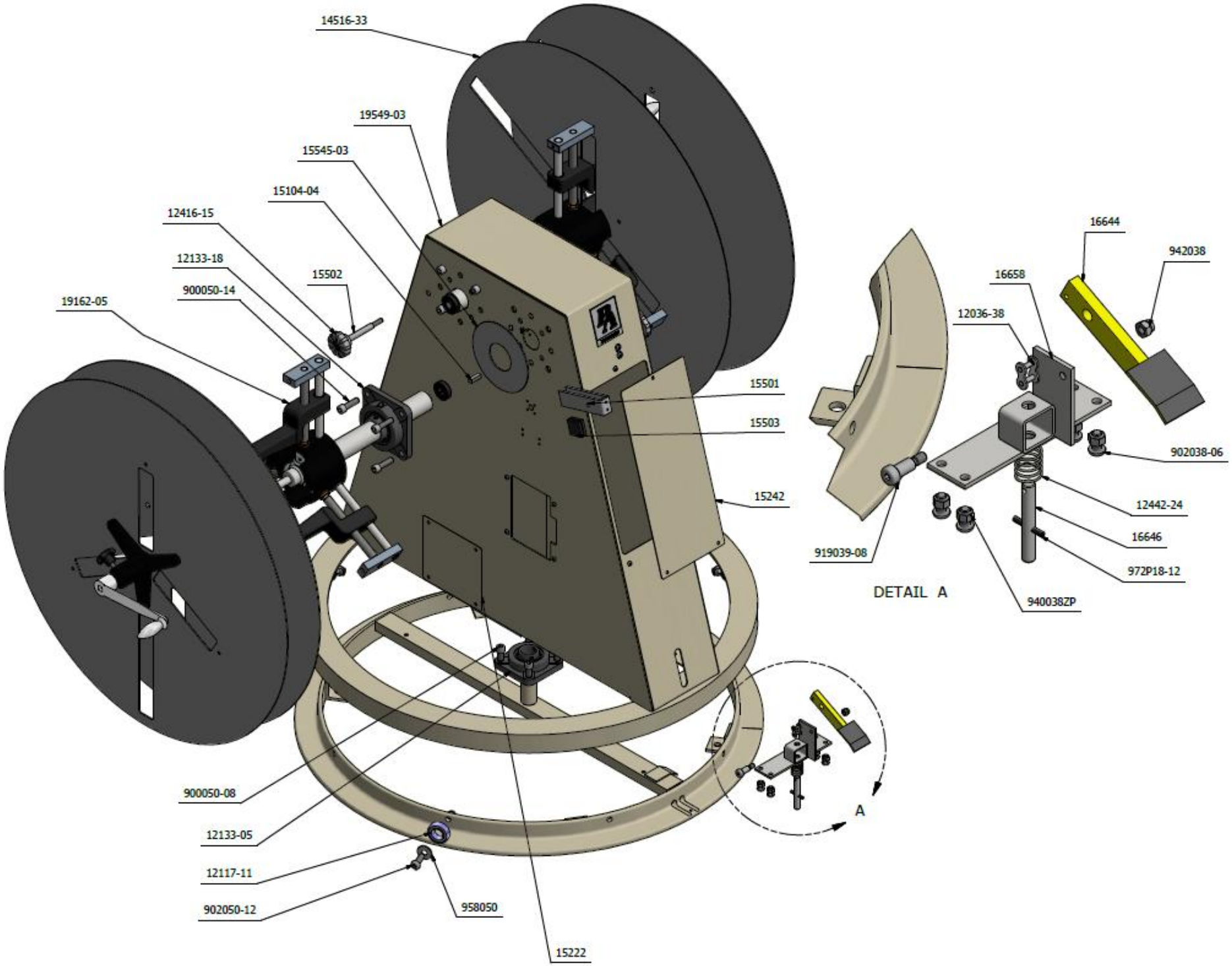
44	15170-01	DANCER ARM, .5 DIA x 41.0 x 14.0	2
45	14959-03	CLAMP, 1.25 SQ x .5O BORE, METRIC	2
46	16486-06	LOOP CONTROL DA LDUTY W/O ENCLOSURE 41"L	6
47	14975	ROLLER, DANCER ARM	2
48	12441-08	CLAMP COLLAR, 1/2 BORE, BLACK OXIDE	4
49	19549-03	WELDMENT CAB ASSY DSRA2/4/600 NON MOTOR	1
50	12036-175	SPROCKET, #40 CHAIN, 50T, 1.937 BORE	1
51	12036-38	CHAIN, #50, CONNECTING LINK**********	2
52	12125-XX	GEARMOTOR	2
53	12036-177	SPROCKET, #40 CHAIN, 24T, .750 BORE	2
54	12096-32	SWITCH, TOGGLE, DPDT	1
55	14964-71	CONTROLLER, MOTOR, DC, KBPC-240D	2
56	12126-10	BELT, TIMING, 80T	2
57	14974-02	SHEAVE,TIMING,72T,4.584"PD,1/2"BORE	2
58	14957	SHAFT, DA, .50 DIA x 4.56 LONG	2
59	14958	BEARING BLOCK, 1.25SQ x 1.5LG x .5 BORE	2
60	12434-08	WASHER, SHIM .75 OD x .50 ID x .020 THK	2
61	16241	MOTOR PLATE, 1/4 HP	2
62	16486-06	LOOP CONTROL DA LDUTY W/O ENCLOSURE 41"L	2
63	14960	BRACKET, POTENTIOMETER	2
64	14946-15	POTENTIOMETER,10K,SINGLE TURN,2" SHAFT	2
65	14974-01	SHEAVE, TIMING, 11T, .700 PITCH DIA	2

5.3 Overall Dimensions & Drawings





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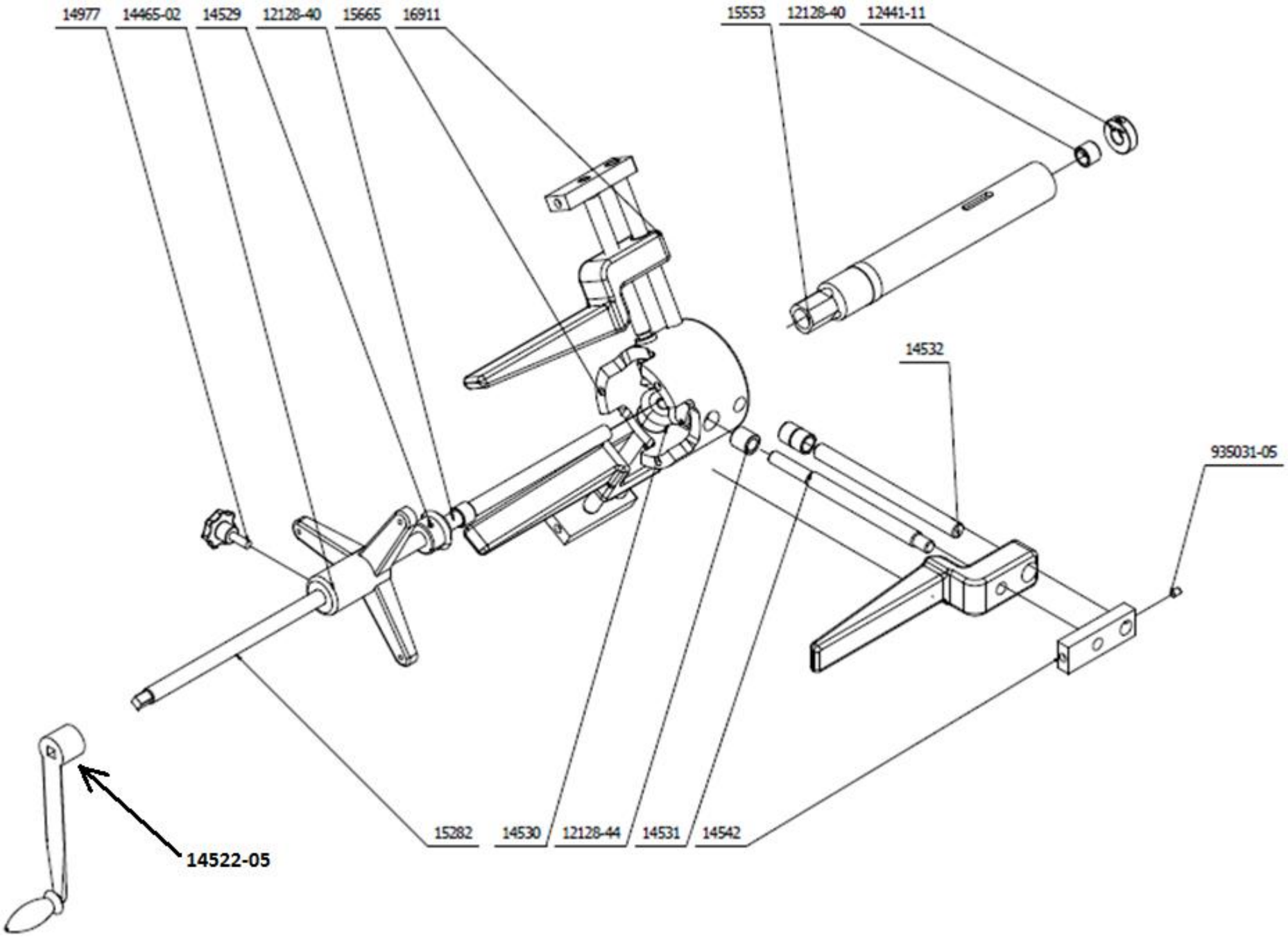
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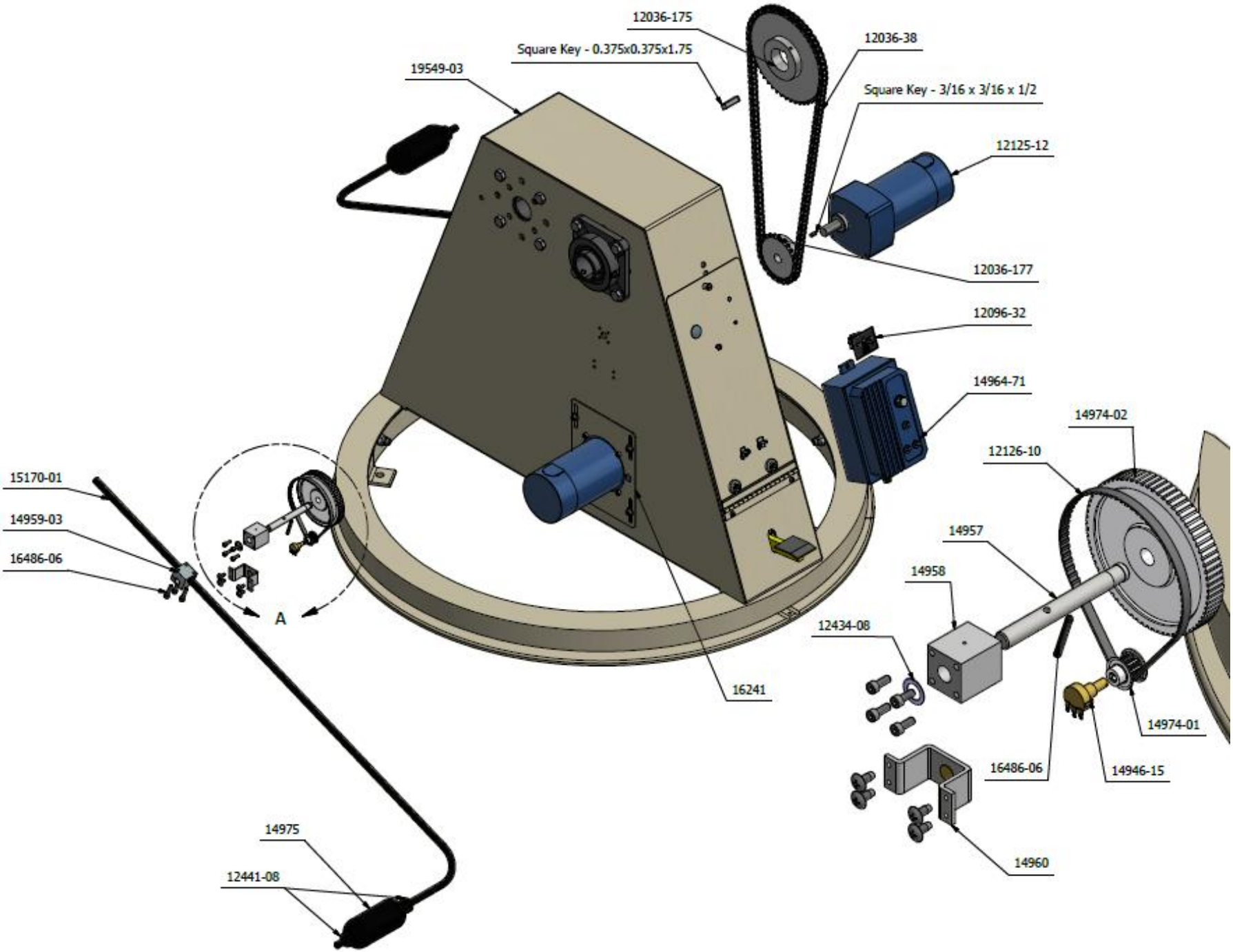
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Square Key - 0.375x0.375x1.75
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Square Key - 3/16 x 3/16 x 1/2
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16486-06
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14974-01
16486-06
14946-15
14975
12441-08
14960

fF

5.4 VFD Status / Warning Messages

Status / Warning		Cause	Solution
bF	Drive ID Warning	The Drive ID (P502) stored on the EPM does not match the drive model	Verify motor data (P302-306) and perform Auto Calibration, Set drive mode (P300) to 0 or 1, Reset the drive (P199 to 3 or 4)and reprogram
CAL	Motor Auto Calibration	Refer to P300, 399	Motor Auto-Calibration is being performed
cE	An EPM that contains valid data from a previous software version has been installed	An attempt was made to change parameter settings	Parameter settings can only be changed after the EPM data is converted to the current version (P199 = 5)
CL	Current Limit (P171) reached	Motor Overload	Increase P171, Verify drive/motor are proper size for application
dEC	Decel Override	The drive has stopped decelerating to avoid tripping into HF fault, due to excessive motor regen (2 seconds max)	If the drive trips to HF fault: Increase P105, P126, Install Dynamic Braking option
Err	Error	Invalid data was entered, or an invalid command was attempted	
FCL	Fast Current Limit	Overload	Verify drive/motor are proper size for application
GE	OEM Settings Operation Warning	An attempt was made to change parameter settings while the drive is operating in OEM settings mode	In OEM Settings mode (P199 = 1), making changes to parameters is not permitted
GF	OEM Defaults Data Warning	An attempt was made to use (or reset to) the OEM default settings (P199 = 1 or 2) using an EPM without valid OEM data	Install EPM containing valid OEM Defaults data
LC	Fault Lockout	The drive attempted 5 starts after a fault but all attempts we unsuccessful (P110 = 3-6)	Drive requires manual reset, Check fault history (P500) and correct the fault condition
F_AF	High Temperature fault	Drive is too hot inside	Reduce drive load, Improve cooling
F_AL	Assertion Level fault	Assertion Level switch is changed during operation, P120 is changed during operation, P100 or P121-P124 are set to a value other than 0 and P120 does not match the Assertion Level switch	Make sure the Assertion Level switch and P120 are both se for the type of input devices being used prior to setting P100 or P121-P124. Refer to 3.2.3 and P120
F_bF	Personality fault	Drive Hardware	Cycle Power, Power down and install EPM with valid data, Reset the drive back to defaults (P199 = 3 or 4) and then re-program, If the problem persists, contact factory technical support
F_CF	Control fault	An EPM has been installed that is either blank or corrupted	
F_cF	Incompatible EPM fault	An EPM has been installed that contains data from an incompatible parameter version	

F_cFt	Forced Translation fault	An EPM from an old drive put into a new drive	Press [M] (mode button) twice to reset
F_dbF	Dynamic Braking fault	Dynamic braking resistors are overheating	Increase active decel time (P105, P126, P127), Check main voltage and P107
F_EF	External fault	P121-P124 = 21 and that digital input has been opened, P121-P124 = 22 and that digital input has been closed	Correct the external fault condition, Make sure digital input is set properly for NC or NO circuit
F_F1	EPM fault	EPM missing or defective	Power down and replace EPM
F_Fnr	Control Configuration fault	The drive is setup for REMOTE KEYPAD control (P100 = 2 or 5) but is not set up for network communication	Set P400 = 1 or P600 = 1
		4-20mA signal (at TB-25) drops below the value set in P164	Set P400 or P600 to a valid network communications protocol selection
F_GF	OEM Defaults data fault	Drive is powered up with P199 = 1 and OEM settings in the EPM are not valid	Install an EPM containing valid OEM defaults data or change P199 to 0
F_HF	High DC Bus Voltage fault	Mains voltage is too high	Check main voltage and P107
		Decel time is too short, or too much regen from the motor	Increase decel time (P105, P126, P127) or install Dynamic Braking option
F_IL	Digital Input Configuration fault (P121-P124)	More than one digital input set for the same function	Each setting can only be used once (except setting 0 and 3)
		Only one digital input configured for MOP function (up, Down)	One input must be set to MOP up, another must be set to MOP down
		PID mode is entered with set point reference and feedback source set to the same analog signal	Change PID set point reference (P121-P124 or feedback source (P201)
		One of the digital inputs (P121-P124) is set to 10 and another is set to 11-14	Reconfigure digital inputs
		One of the digital inputs (P121-P124) is set to 11 or 12 and another is set to 13-14	
		PID enabled in Vector Torque mode (P200 = 1 or 2 and P300 = 5)	PID cannot be used in Vector Torque mode
F_LF	Low DC Bus Voltage fault	Main voltage is too low	Check main voltage
F_nId	No Motor ID fault	An attempt was made to start the drive in Vector or Enhanced V/Hz mode prior to performing the Motor Auto-Calibration	Refer to parameters P300-P399 for Drive Mode setup and calibration
F_OF	Output fault: Transistor fault	Output short circuit	Check motor/motor cable
		Acceleration time too short	Increase P104, P125
		Severe motor overload due to: Mechanical problem, Drive/motor too small for application	Check machine/system, Verify drive/motor are proper size for application
		Boost values too high	Decrease P168, P169

		Excessive capacitive charging current of the motor cable	Use shorter motor cables with lower charging current, Use low capacitance motor cables, Install reactor between motor and drive
		Failed output transistor	Contact factory for technical support
F_OF1	Output fault: Ground fault	Grounded motor phase	Check motor cable
		Excessive capacitive charging current of the motor cable	Use shorter motor cables with lover charging current
F_PF	Motor Overload fault	Excessive motor load for too long	Verify proper setting of P108, Verify drive and motor are proper size for application
F_rF	Flying Restart fault	Controller was unable to synchronize with the motor during restart attempt; (P110 = 5 or 6)	Check motor/load
F_SF	Single-Phase fault	A line phase has been lost	Check line phases / voltage
F_UF	Start fault	Start command was present when power was applied (P110 = 0 or 2)	Must wait at least 2 seconds after power-up to apply Start command, Consider alternate starting method (P110)
F_FAU	TB5 (0-10V signal) Threshold fault	0-10V signal (at TB5)drops below the value set in P158	Check signal/signal wire, Refer to parameter P157 and P158