

# Lane Machine Manual



*REV 12:10*

## Crossfire Specifications

17-5600K Battery Crossfire (24VDC)  
Class I - Single Phase  
115 Volts, 60 Hz, 13 Amps

## Machine Dimensions

Width – 55 1/4" (140.34 cm)  
Height – 16"  
Length – 38 3/4"  
Weight: Crossfire- 310 pounds

**Manual Part Number: 158-5600**  
*First Edition*

# CHAPTER 7



## Troubleshooting

### Troubleshooting Index

The machine is equipped with Error Messages that are displayed in the event the machine malfunctions. These messages indicate the type of operational error that has occurred with the machine.

Below is a list of error messages that can occur and the page number that it can be found on for troubleshooting purposes.

| <u>DESCRIPTION</u>          | <u>PAGE #</u> |
|-----------------------------|---------------|
| <b>FORWARD TRAVEL ERROR</b> | <b>57</b>     |
| <b>REVERSE TRAVEL ERROR</b> | <b>57</b>     |
| <b>BRUSH DOWN ERROR</b>     | <b>31</b>     |
| <b>BRUSH UP ERROR</b>       | <b>31</b>     |
| <b>CAM INDEX ERROR</b>      | <b>32</b>     |
| <b>OIL TANK FLOAT ERROR</b> | <b>32</b>     |
| <b>DUSTER UNWIND ERROR</b>  | <b>49</b>     |
| <b>DUSTER WIND-UP ERROR</b> | <b>49</b>     |
| <b>SQUEEGEE UP ERROR</b>    | <b>50</b>     |
| <b>SQUEEGEE DOWN ERROR</b>  | <b>50</b>     |
| <b>PRIME PUMP ERROR</b>     |               |
| <b>TEST SCREEN ERROR</b>    |               |

In most cases, correcting the problem and resuming the machine after an Error Message is possible. In some instances, the machine will need to be returned to the foul line and then re-started.

Follow the Error Message information shown here to get several suggestions as to the reason the error occurred. Along with these suggestions there are troubleshooting suggestions.



# CHAPTER 8



## Mechanical Drawings

### Machine Descriptions and Part Numbers

The following figures show major systems for the Walker and the Ion and the associated parts:

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| Figure 4 – Crossfire (Left Side).....                              | 73 |
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| Figure 10 – Duster Cloth Assembly.....                             | 80 |
| Figure 11 – Cleaner Supply Assembly .....                          | 81 |
| Figure 12 – Brush Lift Assembly.....                               | 82 |

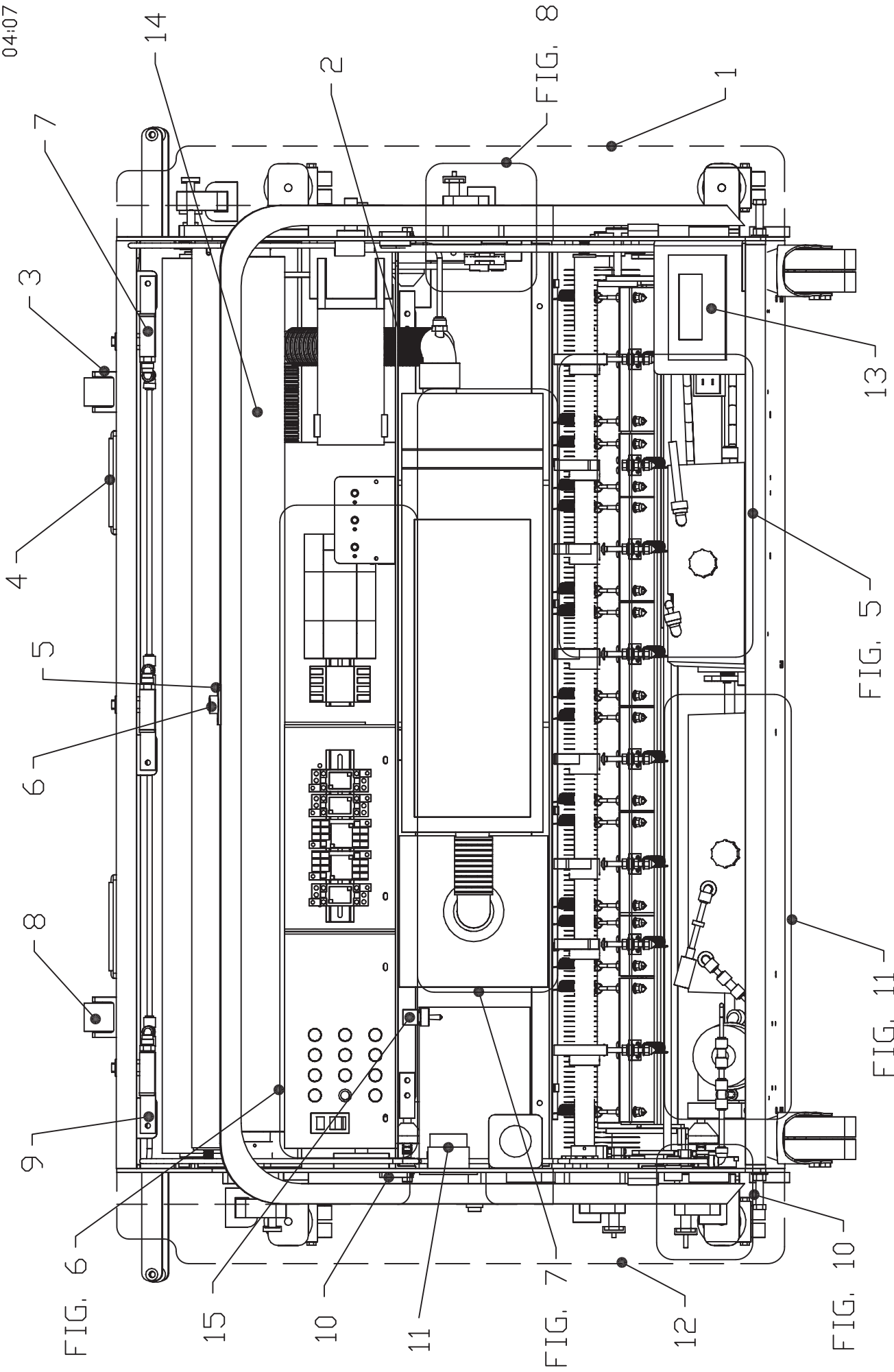


FIGURE 1

SKETCH REFERENCE NUMBERS FOR BATTERY CROSSFIRE MANUAL (09\_10)

**FIGURE 1 PART NUMBERS**

| <b>FIGURE</b> | <b>INDEX</b>  | <b>PART</b>   | <b>PART NAME &amp; DESCRIPTION</b>        |
|---------------|---------------|---------------|---|
| <b>NUMBER</b> | <b>NUMBER</b> | <b>NUMBER</b> |   |
| 1             | 1             | 158-6249      | GUARD FOR CROSSFIRE - RIGHT (PLASTIC)     |
| 1             | 2             | 154-0260      | FLEXIBLE VACUUM HOSE GRAY (1-1/2 INCH ID) |
| 1             | 3             | 153-6029      | MOMENTARY WHEEL HOUSING                   |
| 1             | 4             | 154-0810      | LIFTING HANDLE (SS SPRING-LOADED CHEST)   |
| 1             | 5             | 153-6437      | PUSH BUTTON MOUNTING PLATE                |
| 1             | 6             | 158-8203      | BUTTON ASSEMBLY - CROSSFIRE               |
| 1             | 7             | 153-6252      | SPRAY JET BODY                            |
| 1             | 8             | 153-8311      | MOMENTARY WHEEL ASSEMBLY (URETHANE)       |
| 1             | 9             | 153-6251S     | SPRAY JET SWIVEL MOUNTING ANGLE           |
| 1             | 10            | 154-6698      | LID MOUNT PLATE                           |
| 1             | 11            | 158-1408      | BLUE RECEPTICAL                           |
| 1             | 12            | 158-6248      | GUARD FOR CROSSFIRE - LEFT (PLASTIC)      |
| 1             | 13            | 158-8209      | KEYPAD ASSEMBLY FOR CROSSFIRE             |
| 1             | 14            | 153-0047EZ    | DUSTER CLOTH - KEGEL SELECT               |
| 1             | 15            | 154-1811      | TOGGLE SWITCH SPDT ON-OFF-ON              |

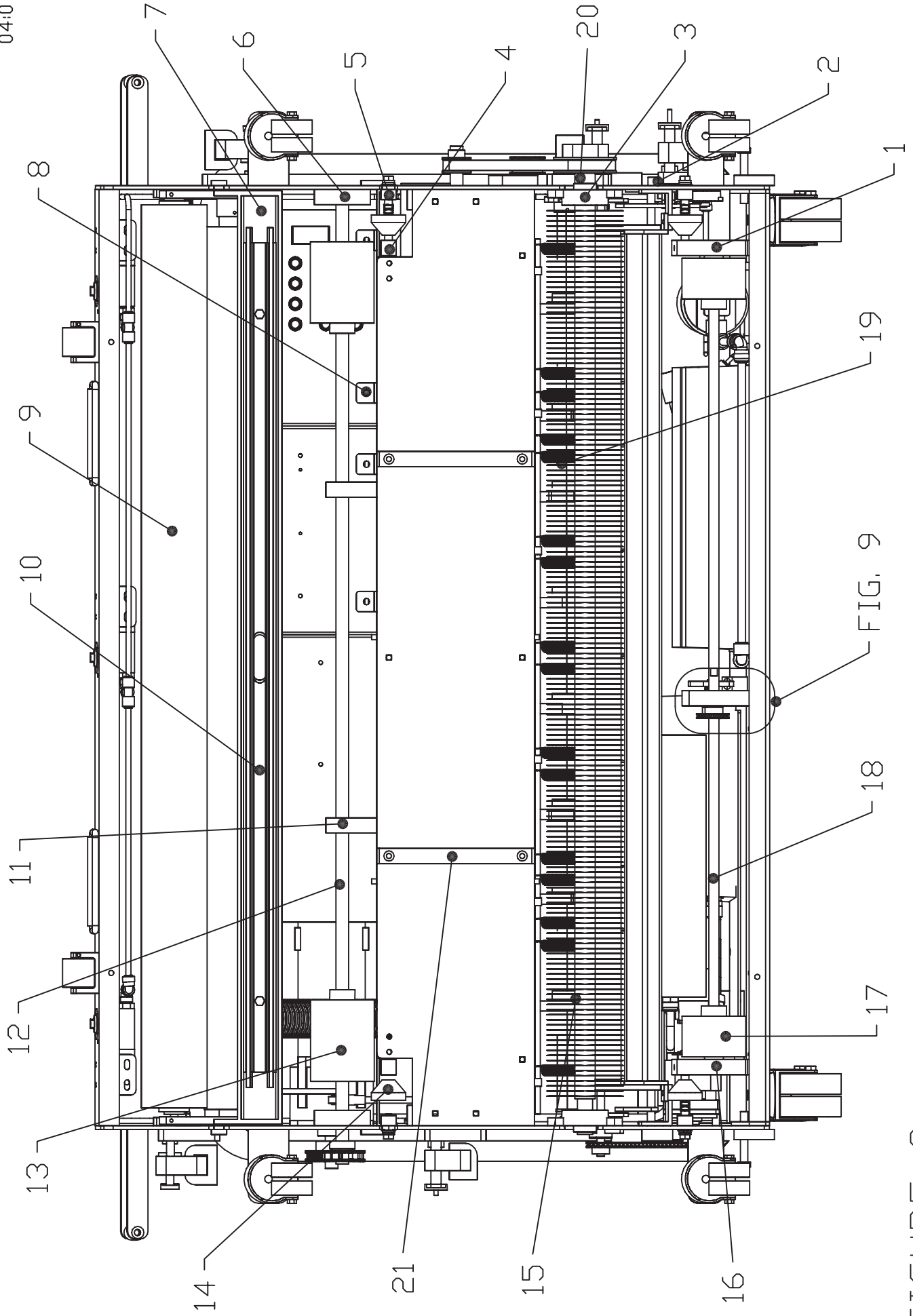


FIGURE 2

FIG. 9

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SKETCH REFERENCE NUMBERS FOR BATTERY CROSSFIRE MANUAL (09\_10)

**FIGURE 2 PART NUMBERS**

| <b>FIGURE NUMBER</b> | <b>INDEX NUMBER</b> | <b>PART NUMBER</b> | <b>PART NAME &amp; DESCRIPTION</b>              |
|----------------------|---------------------|--------------------|---|
| 2                    | 1                   | 154-8619           | PILLOWBLOCK-LANE DISTANCE (LEFT-FLANGED)        |
| 2                    | 2                   | 153-1408           | PUSH BUTTON (RED = NORMALLY OPEN)               |
| 2                    | 3                   | 154-8640           | FLANGED BEARING FOR BUFFER BRUSH (3/4" ROTATED) |
| 2                    | 4                   | 154-6651           | FRONT GUIDE ROLLER MOUNT                        |
| 2                    | 5                   | 154-6652           | GUIDE ROLLER MOUNT BLOCK                        |
| 2                    | 6                   | 154-8007           | SIDE PLATE PILLOWBLOCK FOR DRIVE SHAFT          |
| 2                    | 7                   | 154-6339-2133      | SQUEEGEE MOUNT ANGLE (PAINTED)                  |
| 2                    | 8                   | 154-6827           | PLC RELAY MOUNT PLATE ANGLE                     |
| 2                    | 9                   | 153-8838           | CUSHION ROLLER (STEEL=44-3/8)                   |
| 2                    | 10                  | 153-0202           | COMPLETE SQUEEGEE ASSEMBLY (BLUE)               |
| 2                    | 10                  | 153-0202B          | REPLACEMENT SQUEEGEE BLADE-BLUE                 |
| 2                    | 11                  | 154-8803           | DRIVE SHAFT PILLOWBLOCK                         |
| 2                    | 12                  | 158-6237           | DRIVE SHAFT - CROSSFIRE                         |
| 2                    | 13                  | 153-7013           | URETHANE-BLEND LANE DRIVE WHEEL (4")            |
| 2                    | 14                  | 153-8410           | LANE EDGE GUIDE ROLLER W/BUSHING (1/2")         |
| 2                    | 15                  | 154-8641           | BUFFER BRUSH (BLUE 3-3/4" X 48)                 |
| 2                    | 16                  | 154-8621           | PILLOWBLOCK-LANE DISTANCE (RIGHT-FLANGE)        |
| 2                    | 17                  | 153-7002AA         | LANE DISTANCE COUNTER WHEEL-TREADED (2")        |
| 2                    | 18                  | 154-6821           | LDS SHAFT                                       |
| 2                    | 19                  | 153-2740           | SPRING (WICK PLATE)                             |
| 2                    | 20                  | 154-6664           | BUFFER BRUSH PULLEY SPACER                      |



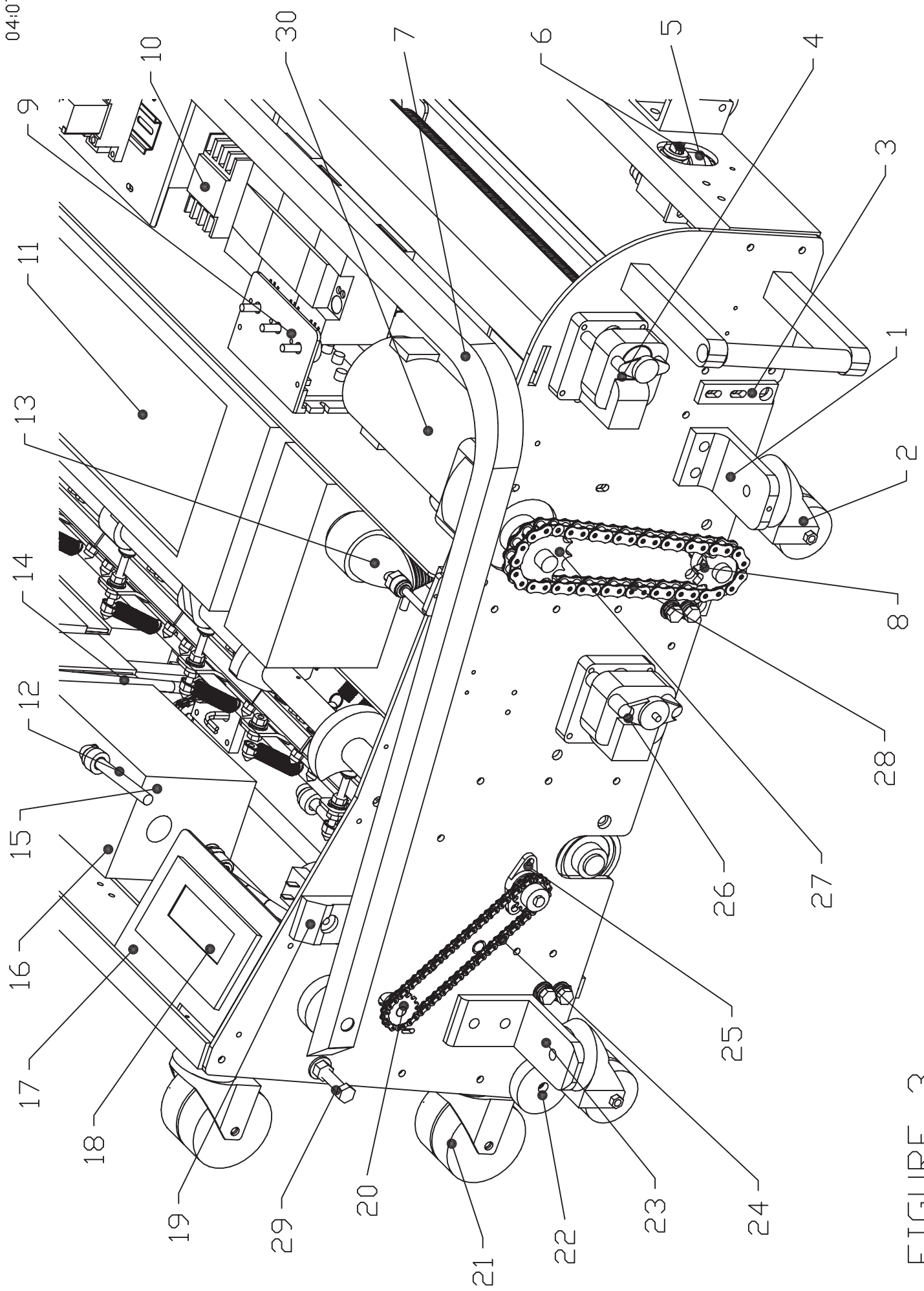


FIGURE 3

SKETCH REFERENCE NUMBERS FOR BATTERY CROSSFIRE MANUAL (09\_10)

**FIGURE 3 PART NUMBERS**

| <b>FIGURE NUMBER</b> | <b>INDEX NUMBER</b> | <b>PART NUMBER</b> | <b>PART NAME &amp; DESCRIPTION</b>               |
|----------------------|---------------------|--------------------|--|
| 3                    | 1                   | 158-6232           | FRONT CASTER MOUNT ANGLE - CROSSFIRE             |
| 3                    | 2                   | 153-0812           | TRANSPORT CASTER-2" HEAVY DUTY (3/8")            |
| 3                    | 3                   | 154-8801           | SQUEEGEE ADJUSTMENT ARM                          |
| 3                    | 4                   | 158-8403           | BRAKE MOTOR ASSEMBLY (7 RPM-115V 60 Hz)          |
| 3                    | 5                   | 158-6254           | SPRAY JET SUCTION CUP                            |
| 3                    | 6                   | 154-0007           | SPRAY TIP - STAINLESS STEEL (1501)               |
| 3                    | 7                   | 158-8202           | HANDLE ASSEMBLY - CROSSFIRE                      |
| 3                    | 8                   | 153-9003           | SPROCKET - 40B10 (5/8")                          |
| 3                    | 9                   | 158-8211           | <b>NOT USED</b>                                  |
| 3                    | 11                  | 153-8841           | RECOVERY TANK ASSEMBLY - MOLDED                  |
| 3                    | 12                  | 154-0832           | GARDEN HOSE FITTING CAP W/ GASKET                |
| 3                    | 13                  | 158-6244           | ELBOW - RECOVERY TANK W/TAPPED HOLE              |
| 3                    | 14                  | 154-8320           | PILLOWBLOCK - LANE DISTANCE SHAFT (CENTER-PLAIN) |
| 3                    | 15                  | 158-0201           | GARDEN HOSE FITTING 1/2 INCH BARB                |
| 3                    | 16                  | 158-6217           | OIL FILL MOUNT - CROSSFIRE                       |
| 3                    | 17                  | 158-6242           | KEYPAD MOUNT PLATE                               |
| 3                    | 18                  | 158-8209           | KEYPAD ASSEMBLY FOR CROSSFIRE                    |
| 3                    | 19                  | 154-6041           | UHMW HANDLE STOP                                 |
| 3                    | 20                  | 153-9010           | SPROCKET-25B15 (5/16")                           |
| 3                    | 21                  | 153-0001           | TRANSPORT CASTER (3" DUAL WHEEL)                 |
| 3                    | 22                  | 154-6042           | UHMW WHEEL - CORNER GUARD                        |
| 3                    | 23                  | 154-6221           | MOUNTING ANGLE - HEAVY DUTY CASTER (3 x 3.625)   |
| 3                    | 24                  | 158-9204           | TRANSFER ROLLER DRIVE CHAIN (25P61)              |
| 3                    | 25                  | 154-9804           | FLANGED BEARING FOR CLEANER DRIVE SHAFT          |
| 3                    | 26                  | 158-8402           | BRAKE MOTOR ASSEMBLY (24VDC)                     |
| 3                    | 27                  | 153-9002           | SPROCKET - 40B13 (5/8")                          |
| 3                    | 28                  | 158-9203           | DRIVE CHAIN 40P39                                |
| 3                    | 29                  | 153-2818           | HHCS - 3/8-16 X 2-1/2 (GRADE 8)                  |
| 3                    | 30                  | 158-8406           | DRIVE MOTOR ASSEMBLY                             |

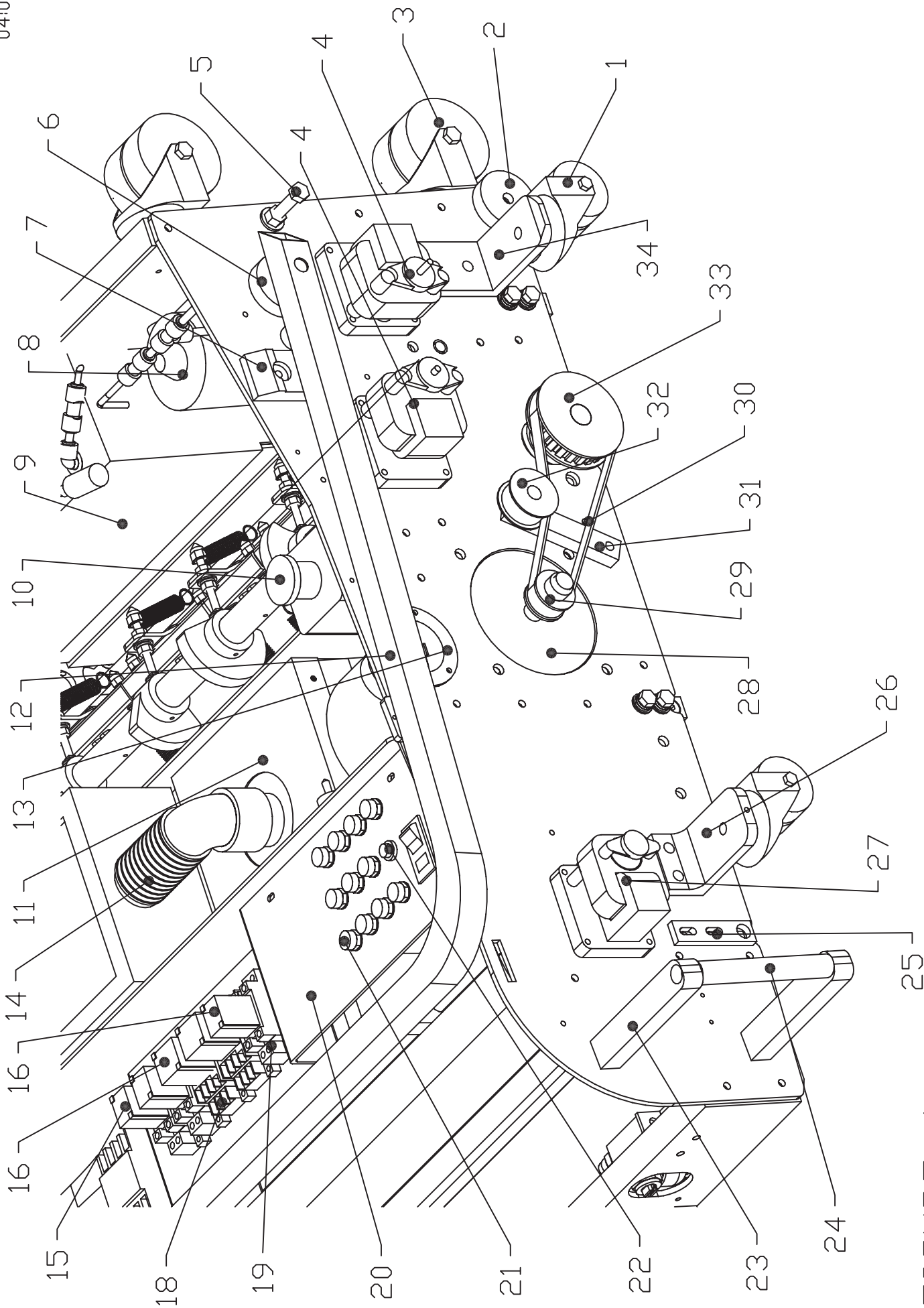


FIGURE 4

SKETCH REFERENCE NUMBERS FOR BATTERY CROSSFIRE MANUAL (09\_10)

**FIGURE 4 PART NUMBERS**

| <b>FIGURE NUMBER</b> | <b>INDEX NUMBER</b> | <b>PART NUMBER</b> | <b>PART NAME &amp; DESCRIPTION</b>       |
|----------------------|---------------------|--------------------|--|
| 4                    | 1                   | 153-0812           | TRANSPORT CASTER-2" HEAVY DUTY (3/8")    |
| 4                    | 2                   | 154-6042           | UHMW WHEEL - CORNER GUARD                |
| 4                    | 3                   | 153-0001           | TRANSPORT CASTER (3" DUAL WHEEL)         |
| 4                    | 4                   | 158-8402           | BRAKE MOTOR ASSEMBLY (24VDC)             |
| 4                    | 5                   | 153-2818           | HHCS - 3/8-16 X 2-1/2 (GRADE 8)          |
| 4                    | 6                   | 153-6851           | UHMW HANDLE SPACER                       |
| 4                    | 7                   | 154-6041           | UHMW HANDLE STOP                         |
| 4                    | 8                   | 153-8206F          | WATER PUMP-Kegel 115v                    |
| 4                    | 8                   | 153-8206H          | WATER PUMP-Kegel 230v                    |
| 4                    | 9                   | 154-6723           | CLEANER SUPPLY TANK (NO FITTINGS)        |
| 4                    | 9                   | 154-8840           | CLEANER SUPPLY TANK (COMPLETE)           |
| 4                    | 10                  | 154-1250           | EMERGENCY STOP CIRCUIT BREAKER ASSEMBLY  |
| 4                    | 11                  | 158-6212           | VACUUM MOTOR TOP PLATE - CROSSFIRE       |
| 4                    | 12                  | 158-8202           | HANDLE ASSEMBLY - CROSSFIRE              |
| 4                    | 13                  | 158-1408           | BLUE RECEPICAL                           |
| 4                    | 13                  | 153-1826           | FLANGED TWISTLOCK INLET - 250V/20A       |
| 4                    | 14                  | 154-0260           | FLEXIBLE VACUUM HOSE STOCK (1-1/2" ID)   |
| 4                    | 15                  | 153-1020           | LY2 RELAY (24VDC)                        |
| 4                    | 16                  | 153-1016           | <b>NOT USED</b>                          |
| 4                    | 16                  | 153-1616           | <b>NOT USED</b>                          |
| 4                    | 17                  | 153-1018           | <b>NOT USED</b>                          |
| 4                    | 17                  | 153-1618           | <b>NOT USED</b>                          |
| 4                    | 18                  | 153-1019           | <b>NOT USED</b>                          |
| 4                    | 19                  | 153-1017           | LY2 RELAY BASE                           |
| 4                    | 20                  | 158-6216           | <b>NOT USED</b>                          |
| 4                    | 21                  | 153-1028           | PANEL-MOUNT FUSE HOLDER - UL (COMPLETE)  |
| 4                    | 21                  | 153-1028E          | PANEL-MOUNT FUSE HOLDER - IEC (COMPLETE) |
| 4                    | 23                  | 158-6241           | SIDE LIFT HANDLE MOUNT BAR               |
| 4                    | 24                  | 154-6627           | SIDE LIFT HANDLE                         |
| 4                    | 25                  | 154-8801           | SQUEEGEE ADJUSTMENT ARM                  |
| 4                    | 26                  | 158-6232           | FRONT CASTER MOUNT ANGLE - CROSSFIRE     |
| 4                    | 27                  | 158-8403           | BRAKE MOTOR ASSEMBLY (7 RPM-115V 60Hz)   |
| 4                    | 27                  | 153-8803H          | <b>NOT USED</b>                          |
| 4                    | 28                  | 158-8414           | BUFFER MOTOR ASSEMBLY (24VDC)            |
| 4                    | 28                  | 154-8616E          | <b>NOT USED</b>                          |
| 4                    | 29                  | 153-9013           | BUFFER MOTOR PULLEY (10L050-1/2")        |
| 4                    | 30                  | 158-9201           | T-BELT 210L050 (BUFFER MOTOR)            |
| 4                    | 31                  | 154-6841           | BUFFER IDLER MOUNT BAR                   |
| 4                    | 32                  | 154-8839           | BUFFER IDLER ASSEMBLY                    |
| 4                    | 33                  | 153-9014           | BUFFER PULLEY (24L050-3/4")              |
| 4                    | 34                  | 154-6221           | MOUNTING ANGLE-HEAVY CASTER (3 X 3.625)  |

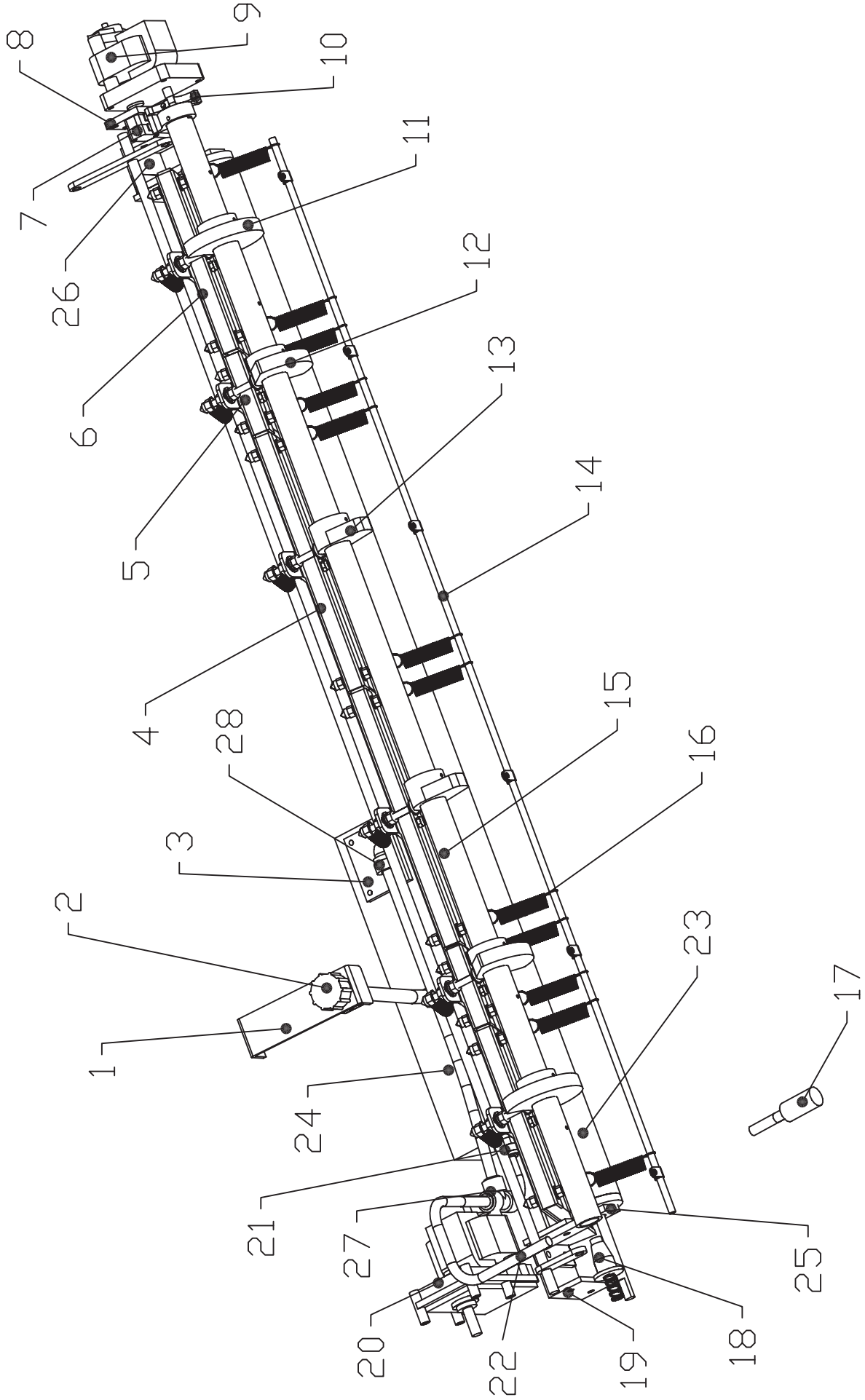


FIGURE 5

SKETCH REFERENCE NUMBERS FOR BATTERY CROSSFIRE MANUAL (09\_10)

**FIGURE 5 PART NUMBERS**

| <b>FIGURE NUMBER</b> | <b>INDEX NUMBER</b> | <b>PART NUMBER</b> | <b>PART NAME &amp; DESCRIPTION</b>          |
|----------------------|---------------------|--------------------|---|
| 5                    | 1                   | 158-6217           | OIL FILL MOUNT - CROSSFIRE                  |
| 5                    | 2                   | 154-0832           | GARDEN HOSE FITTING CAP W/ GASKET           |
| 5                    | 3                   | 158-6246           | OIL TANK FLOAT COVER PLATE                  |
| 5                    | 4                   | 158-8230           | WICK PLATE ASSEMBLY 10.125 INCH - CROSSFIRE |
| 5                    | 5                   | 158-8223           | WICK PLATE ASSEMBLY 3.125 INCH - CROSSFIRE  |
| 5                    | 6                   | 158-8227           | WICK PLATE ASSEMBLY 7.125 INCH - CROSSFIRE  |
| 5                    | 7                   | 153-1202           | MICROSWITCH-WITHOUT ROLLER                  |
| 5                    | 8                   | 154-6890           | CAM SWITCH MOUNT PLATE                      |
| 5                    | 9                   | 158-8402           | BRAKE MOTOR ASSEMBLY (24VDC)                |
| 5                    | 10                  | 158-6220           | CAM POSITION 6 TOOTH TARGET - CROSSFIRE     |
| 5                    | 11                  | 158-6224           | OUTSIDE PAD CAM - CROSSFIRE                 |
| 5                    | 12                  | 158-6223           | TRACK PAD CAM - CROSSFIRE                   |
| 5                    | 13                  | 158-6222           | INSIDE PAD CAM - CROSSFIRE                  |
| 5                    | 14                  | 158-6239           | WICK SPRING ROD - CROSSFIRE                 |
| 5                    | 15                  | 158-6233           | CAM SHAFT FOR 6-PAD - CROSSFIRE             |
| 5                    | 16                  | 153-2740           | SPRING (WICK PLATE)                         |
| 5                    | 17                  | 154-0211           | FILTER FOR OIL TANK VENT VALVE              |
| 5                    | 18                  | 158-6221           | CAM SHAFT PLUG                              |
| 5                    | 19                  | 158-6228           | WICK TROUGH MOUNT ANGLE - RIGHT             |
| 5                    | 20                  | 158-1615           | TRANSFER ROLLER MOTOR - (24VDC)             |
| 5                    | 21                  | 154-0410           | FITTING - 3/8 TUBE X 3/8 NPT MALE           |
| 5                    | 22                  | 154-0202           | PUMP TUBING STOCK (3/8" OD X 1/4" ID)       |
| 5                    | 23                  | 158-8204           | TRANSFER ROLLER ASSEMBLY - CROSSFIRE        |
| 5                    | 24                  | 158-6210           | WICK TROUGH WITH RESERVOIR                  |
| 5                    | 25                  | 158-8210           | TRANSFER ROLLER ARM ASSEMBLY                |
| 5                    | 26                  | 158-6227           | WICK TROUGH MOUNT ANGLE - LEFT              |
| 5                    | 27                  | 154-0815           | FITTING - 3/8 TUBE TEE                      |
| 5                    | 28                  | 154-0225           | ELBOW - 3/8 TUBE OD X 1/4 NPT               |

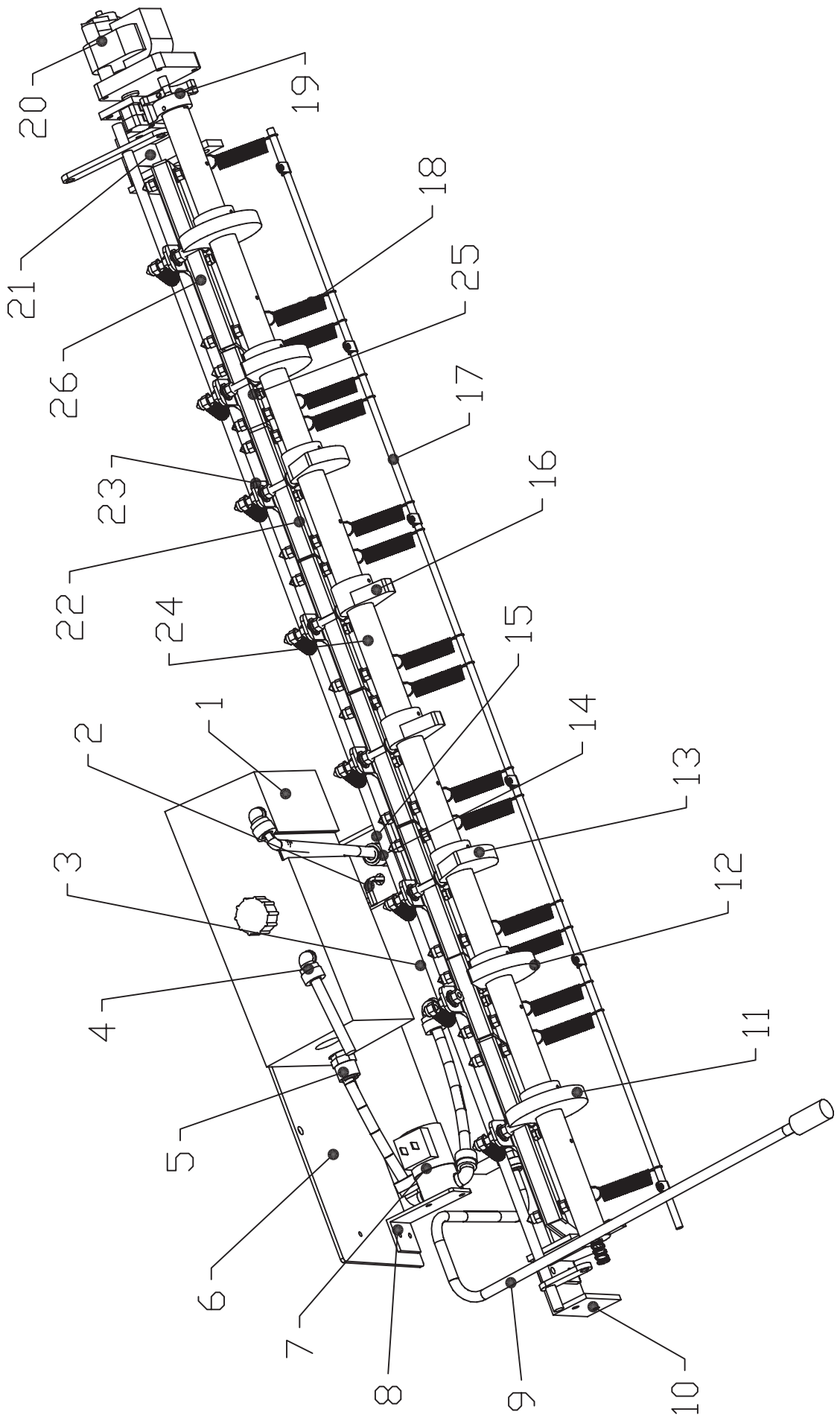


FIGURE 5A



SKETCH REFERENCE NUMBERS FOR BATTERY CROSSFIRE MANUAL (09\_10)

| <b>FIGURE 5A PART NUMBERS</b> |                     |                    |  |
|-------------------------------|---------------------|--------------------|--|
| <b>FIGURE NUMBER</b>          | <b>INDEX NUMBER</b> | <b>PART NUMBER</b> | <b>PART NAME &amp; DESCRIPTION</b>         |
| 5A                            | 1                   | 154-6724           | POLY CONDITIONER SUPPLY TANK ONLY          |
| 5A                            | 1                   | 154-8342           | POLY CONDITIONER TANK ASSEMBLY W/ FITTINGS |
| 5A                            | 2                   | 154-1203           | FLOAT SWITCH FOR OIL TANK - 24VDC          |
| 5A                            | 3                   | 158-6210           | WICK TROUGH WITH RESERVOIR                 |
| 5A                            | 4                   | 154-0225           | ELBOW - 3/8 TUBE OD X 1/4 NPT              |
| 5A                            | 5                   | 154-0410           | FITTING - 3/8 TUBE X 3/8 NPT MALE          |
| 5A                            | 6                   | 158-6219           | OIL TANK UPGRADE PLATE                     |
| 5A                            | 7                   | 154-8322           | OIL VALVE ASSY- 24VDC                      |
| 5A                            | 8                   | 154-6355           | VALVE MOUNT ANGLE                          |
| 5A                            | 9                   | 154-0202           | PUMP TUBING STOCK (3/8" OD X 1/4" ID)      |
| 5A                            | 10                  | 158-6228           | WICK TROUGH MOUNT ANGLE - RIGHT            |
| 5A                            | 11                  | 158-6253           | OUTSIDE PAD CAM - ZONE 1                   |
| 5A                            | 12                  | 158-6252           | TRACK PAD CAM - ZONE 2                     |
| 5A                            | 13                  | 158-6251           | INSIDE PAD CAM - ZONE 3                    |
| 5A                            | 14                  | 154-0814           | FITTING - 1/4 NPT X 3/8 TUBE               |
| 5A                            | 15                  | 158-6245           | OIL TANK FLOAT MOUNT PLATE                 |
| 5A                            | 16                  | 158-6250           | INSIDE PAD CAM - ZONE 4                    |
| 5A                            | 17                  | 158-6239           | WICK SPRING ROD - CROSSFIRE                |
| 5A                            | 18                  | 153-2740           | SPRING - (WICK PLATE)                      |
| 5A                            | 19                  | 158-6220A          | CAM POSITION 8 TOOTH TARGET - CROSSFIRE    |
| 5A                            | 20                  | 158-8402           | BRAKE MOTOR ASSEMBLY (24VDC)               |
| 5A                            | 21                  | 158-6227           | WICK TROUGH MOUNT ANGLE - LEFT             |
| 5A                            | 22                  | 158-8225           | WICK PLATE ASSEMBLY 5.125 INCH - CROSSFIRE |
| 5A                            | 23                  | 158-6226           | WICK CAM ACTUATION PLATE                   |
| 5A                            | 24                  | 158-6233A          | CAM SHAFT FOR 8-PAD - CROSSFIRE            |
| 5A                            | 25                  | 158-8223           | WICK PLATE ASSEMBLY 3.125 INCH - CROSSFIRE |
| 5A                            | 26                  | 158-8227           | WICK PLATE ASSEMBLY 7.125 INCH - CROSSFIRE |



### 230V FUSE CHART

|     |            |           |
|-----|------------|-----------|
| F1  | 1 AMP      | 154-1260E |
| F2  | 6.3 AMP    | 154-1269E |
| F3  | 4 AMP      | 154-1267E |
| F4  | 4 AMP      | 154-1267E |
| F5  | 1.6 AMP    | 154-1265E |
| F6  | 1.6 AMP    | 154-1265E |
| F7  | 1.6 AMP    | 154-1265E |
| F8  | 8 AMP C.B. | 153-1810  |
| F9  | 1.6 AMP    | 154-1265E |
| F10 | 1.6 AMP    | 154-1265E |
| F11 | 1.6 AMP    | 154-1265E |
| F12 | 315mA      | 154-1260E |

### 115V FUSE CHART

|     |          |           |
|-----|----------|-----------|
| F1  | 1 AMP    | 154-1262  |
| F2  | 7.5 AMP  | 154-1270  |
| F3  | 4 AMP    | 154-1268C |
| F4  | 4 AMP    | 154-1268C |
| F5  | 2.5 AMP  | 154-1266  |
| F6  | 2.5 AMP  | 154-1266  |
| F7  | 2.5 AMP  | 154-1266  |
| F8  | 10 AMP   | 154-1273  |
| F9  | 2.5 AMP  | 154-1266  |
| F10 | 2.5 AMP  | 154-1266  |
| F11 | 2.5 AMP  | 154-1266  |
| F12 | 0.75 AMP | 154-1262  |

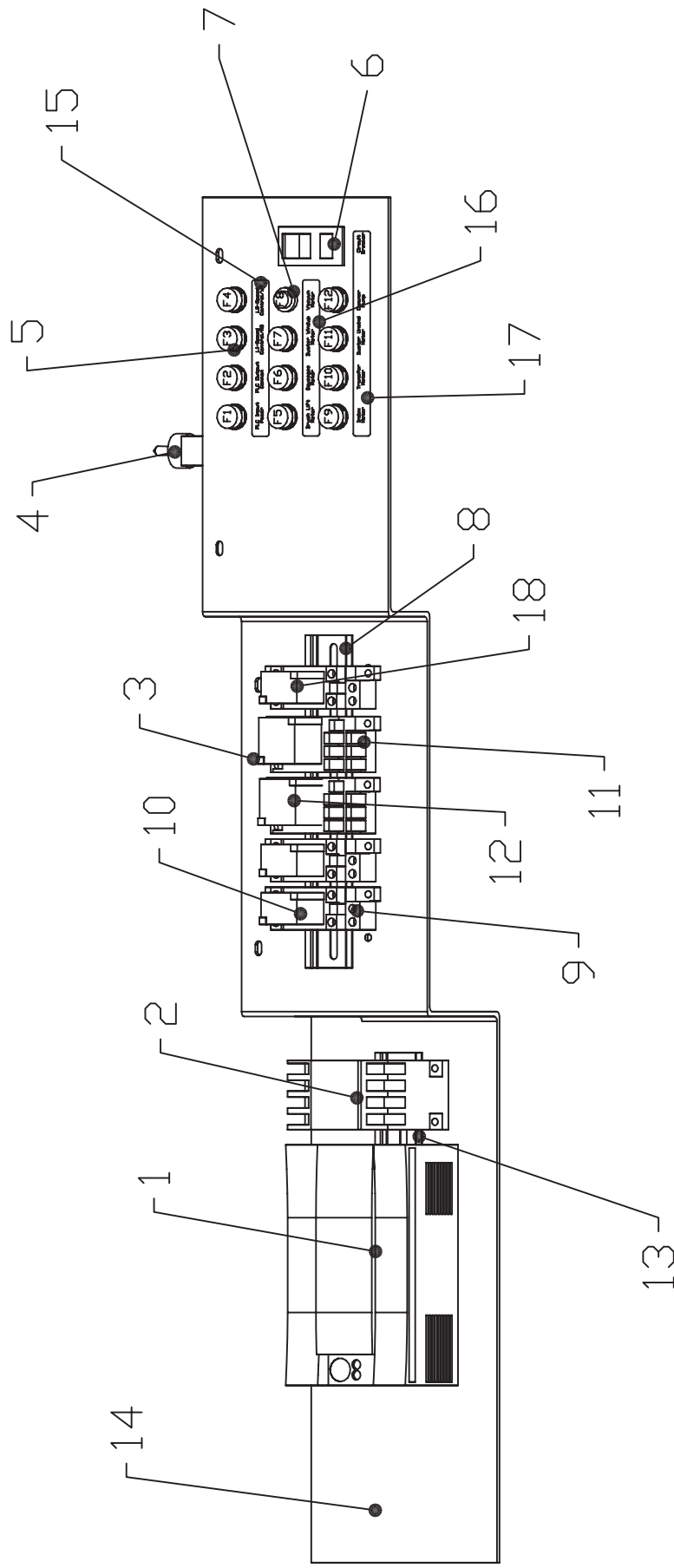
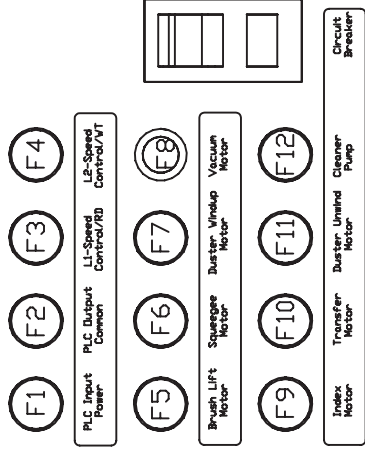


FIGURE 6

**FIGURE 6 PART NUMBERS**

| <b>FIGURE</b> | <b>INDEX</b>  | <b>PART</b>   | <b>PART NAME &amp; DESCRIPTION</b>         |
|---------------|---------------|---------------|--|
| <b>NUMBER</b> | <b>NUMBER</b> | <b>NUMBER</b> |  |
| 6             | 1             | 155-1240      | PLC - TWIDO                                |
| 6             | 2             | 153-1004A     | BUFFER MOTOR CONTACTOR (115 VOLT)          |
| 6             | 2             | 153-1604A     | BUFFER MOTOR CONTACTOR (230 VOLT)          |
| 6             | 3             | 153-1020      | RELAY CLAMP (SOLD AS PAIR)                 |
| 6             | 4             | 154-1811      | TOGGLE SWITCH SPDT ON-OFF-ON               |
| 6             | 5             | 153-1028      | PANEL-MOUNT FUSE HOLDER - UL (COMPLETE)    |
| 6             | 5             | 153-1028E     | PANEL-MOUNT FUSE HOLDER - IEC (COMPLETE)   |
| 6             | 6             | 154-1272      | CIRCUIT BREAKER - DPST (10A)               |
| 6             | 7             | 153-1810      | CIRCUIT BREAKER - SPST - 8 AMP (230V ONLY) |
| 6             | 8             | 153-1809F     | DIN RAIL - 8-9/16 INCH                     |
| 6             | 9             | 153-1017      | LY2 RELAY BASE                             |
| 6             | 10            | 153-1016D     | LY2 RELAY (24VDC)                          |
| 6             | 11            | 153-1019      | LY3 RELAY BASE                             |
| 6             | 12            | 153-1018      | LY3 RELAY (115 VOLT)                       |
| 6             | 12            | 153-1618      | LY3 RELAY (230 VOLT)                       |
| 6             | 13            | 153-1809E     | DIN RAIL - 8 INCH                          |
| 6             | 14            | 158-6216      | PLC/RELAY MOUNT PLATE                      |
| 6             | 15            | 158-0205      | DECAL - FUSE PANEL CROSSFIRE - FIRST ROW   |
| 6             | 16            | 158-0205A     | DECAL - FUSE PANEL CROSSFIRE -SECOND ROW   |
| 6             | 17            | 158-0205B     | DECAL - FUSE PANEL CROSSFIRE - THIRD ROW   |
| 6             | 18            | 153-1016      | LY2 RELAY (230VDC)                         |
| 6             | 18            | 153-1616      | LY2 RELAY (115VDC)                         |

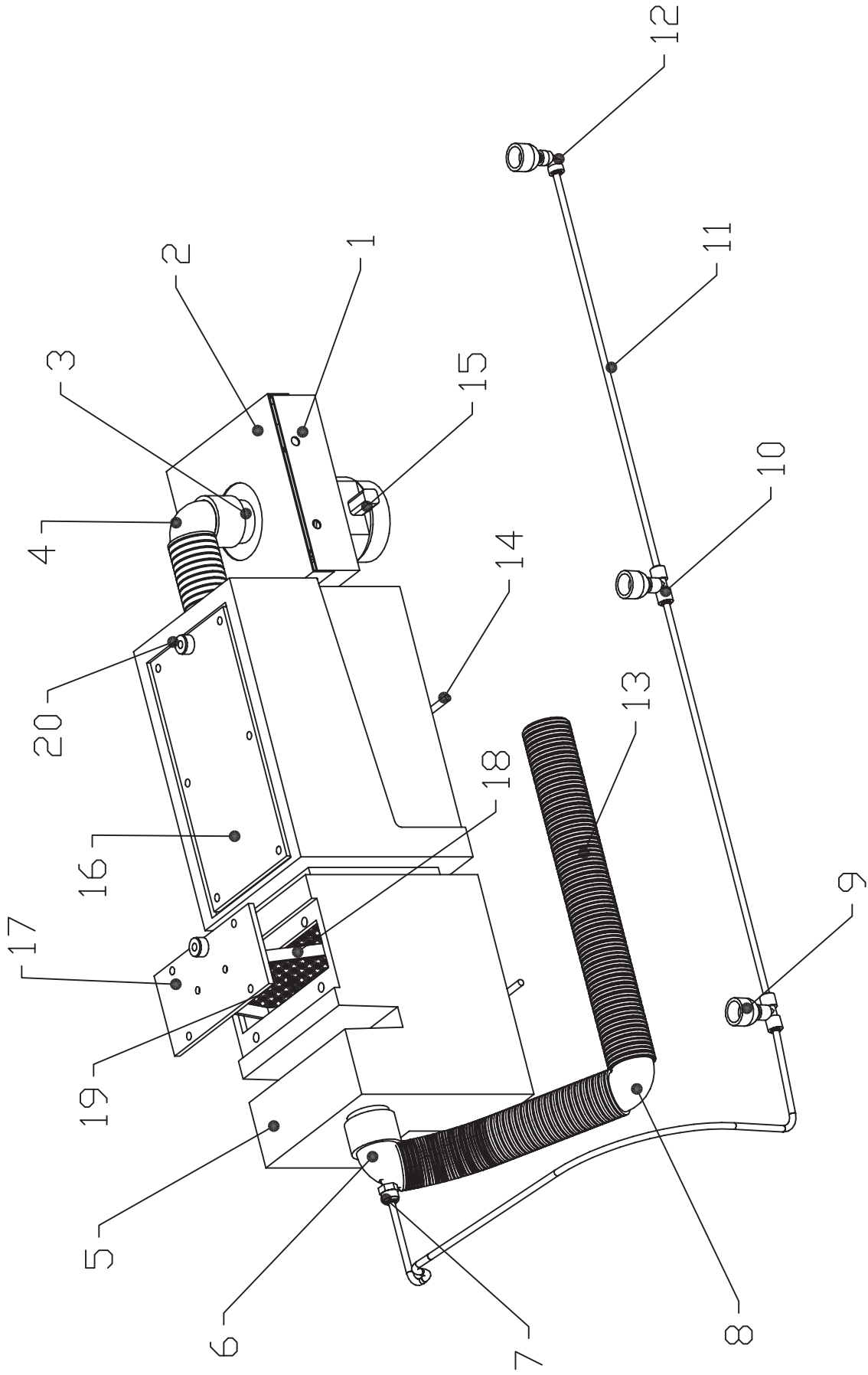


FIGURE 7

SKETCH REFERENCE NUMBERS FOR BATTERY CROSSFIRE MANUAL (09\_10)

**FIGURE 7 PART NUMBERS**

| <b>FIGURE</b> | <b>INDEX</b>  | <b>PART</b>   | <b>PART NAME &amp; DESCRIPTION</b>      |
|---------------|---------------|---------------|---|
| <b>NUMBER</b> | <b>NUMBER</b> | <b>NUMBER</b> |   |
| 7             | 1             | 158-6211      |   |
| 7             | 2             | 158-6212      | VACUUM MOTOR TOP PLATE - CROSSFIRE      |
| 7             | 3             | 158-8207      | VACUUM NIPPLE ASSEMBLY - CROSSFIRE      |
| 7             | 4             | 153-8827T     | 1-1/4 PVC ELBOW-TANK INLET (NO THREADS) |
| 7             | 5             | 153-8841      | RECOVERY TANK ASSEMBLY - MOLDED         |
| 7             | 6             | 158-6244      | ELBOW - RECOVERY TANK W/TAPPED HOLE     |
| 7             | 7             | 154-0858      | MALE CONNECTOR-1/4 TUBE-1/4 NPTF        |
| 7             | 8             | 154-0607      | PVC ELBOW - 1-1/2 BARB X 1-1/2 BARB     |
| 7             | 9             | 158-6254      | SPRAY JET SUCTION CUP                   |
| 7             | 10            | 153-0815      | UNION TEE (1/4 X 1/4 X 1/4-QUICK DISC)  |
| 7             | 11            | 154-0202A     | PENCIL TUBING STOCK - 1/4" OD X 1/8" ID |
| 7             | 12            | 154-0243      | ELBOW (90 DEGREE) 1/4 X 1/4 (GUEST)     |
| 7             | 13            | 154-0260      | FLEXIBLE VACUUM HOSE STOCK (1-1/2" ID)  |
| 7             | 14            | 153-2221C     | ALL THREAD 1/4-20 X 8.5 INCHES          |
| 7             | 15            | 158-8407      | VACUUM MOTOR ASSEMBLY (24VDC)           |
| 7             | 16            | 153-6841Y     | RECOVERY TANK COVER                     |
| 7             | 17            | 153-6841Z     | RECOVERY TANK FILTER COVER              |
| 7             | 18            | 154-6735      | FILTER MEDIA RETAINER                   |
| 7             | 19            | 153-8844      | RECOVERY TANK FILTER REPLACEMENT KIT    |
| 7             | 20            | 154-0006A     | BUMPER GUARD - POLYURETHANE (13/32)     |

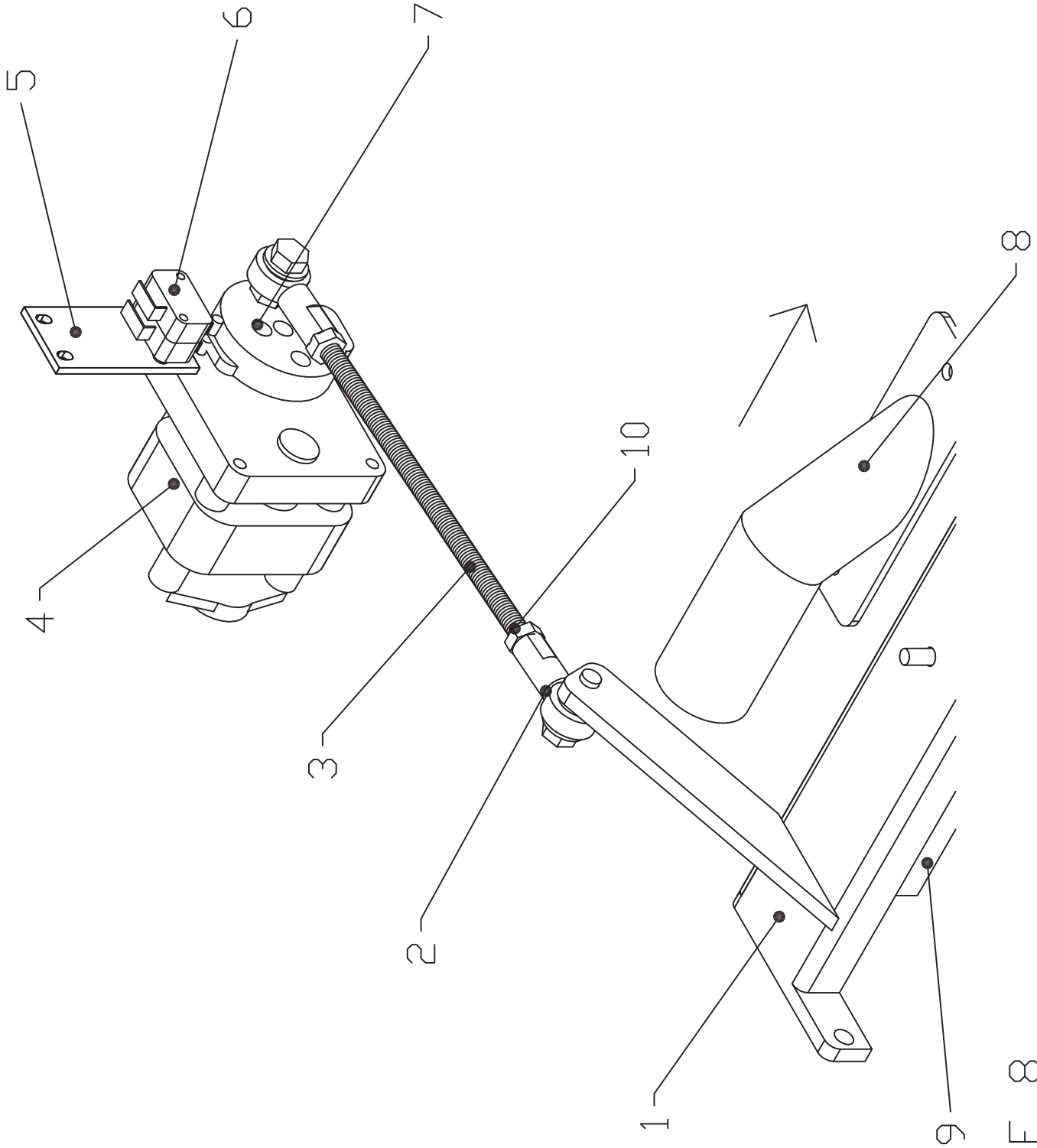


FIGURE 8

**FIGURE 8 PART NUMBERS**

| <b>FIGURE</b> | <b>INDEX</b>  | <b>PART</b>   | <b>PART NAME &amp; DESCRIPTION</b>       |
|---------------|---------------|---------------|--|
| <b>NUMBER</b> | <b>NUMBER</b> | <b>NUMBER</b> |  |
| 8             | 1             | 154-6339-2133 | SQUEEGEE MOUNT ANGLE                     |
| 8             | 2             | 153-0211      | SQUEEGEE ROD END WITH FITTING (ON MOTOR) |
| 8             | 3             | 154-0031      | 5/16-24 ALLTHREAD STOCK                  |
| 8             | 4             | 158-8402      | BRAKE MOTOR ASSEMBLY (24VDC)             |
| 8             | 5             | 154-6824      | BRUSH CAM SWITCH PLATE                   |
| 8             | 6             | 153-1203      | MICROSWITCH W/ ROLLER                    |
| 8             | 7             | 154-6243      | MOTOR CAM - DUAL LOBES                   |
| 8             | 8             | 154-6677      | SQUEEGEE HOSE ADAPTER                    |
| 8             | 9             | 153-0202      | SQUEEGEE ASSEMBLY - BLUE                 |
| 8             | 9             | 153-0202B     | SQUEEGEE REPLACEMENT BLADES - BLUE       |
| 8             | 10            | 153-2214      | JAM NUT - 5/16-24                        |

RIGHT SIDE

LEFT SIDE

04:07

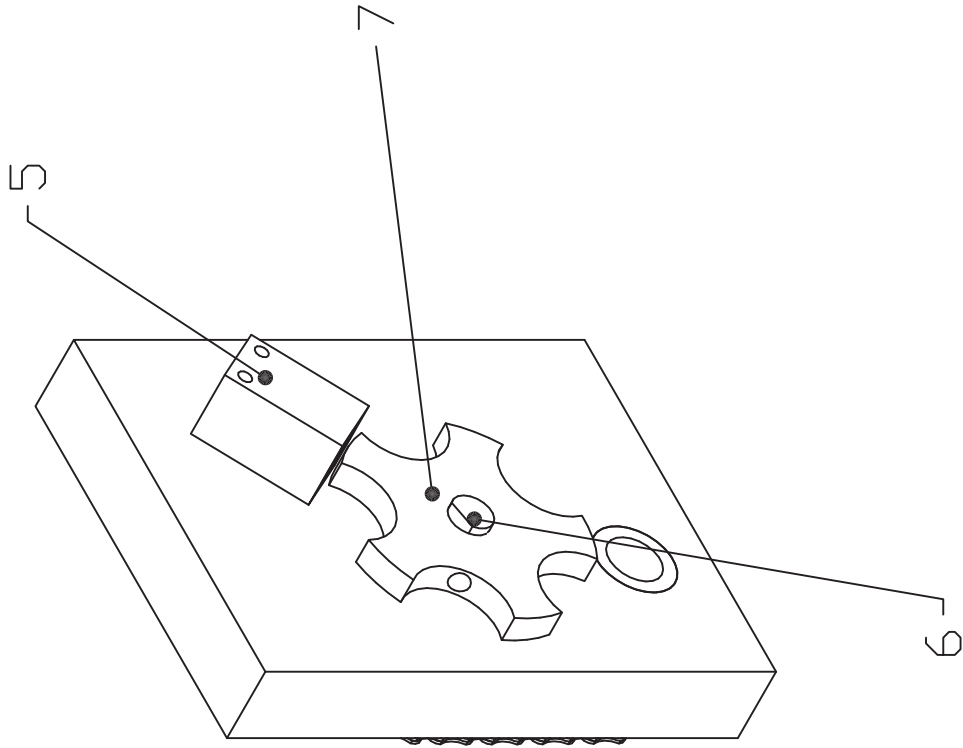
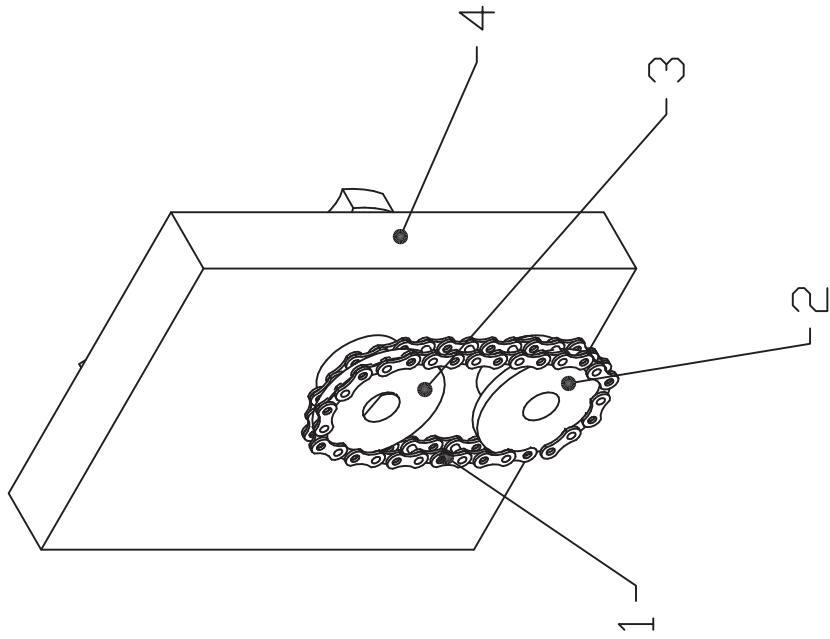


FIGURE 9

**FIGURE 9 PART NUMBERS**

| <b>FIGURE<br/>NUMBER</b> | <b>INDEX<br/>NUMBER</b> | <b>PART<br/>NUMBER</b> | <b>PART NAME &amp; DESCRIPTION</b>               |
|--------------------------|-------------------------|------------------------|--|
| 9                        | 1                       | 154-9211               | LDS AND TACH SENSOR DRIVE CHAIN (25P29)          |
| 9                        | 2                       | 154-9213               | SPROCKET - 25B15 (TACH AND LDS DRIVE 1/2" BORE)  |
| 9                        | 3                       | 153-9010               | SPROCKET - 25B15 (TRANSFER DRIVE & LDS - 3/8")   |
| 9                        | 4                       | 154-8320               | PILLOWBLOCK - LANE DISTANCE SHAFT (CENTER-PLAIN) |
| 9                        | 5                       | 154-1220               | PROXIMITY SENSOR                                 |
| 9                        | 6                       | 154-6264               | SHAFT FOR TIMING DISK (REMOTE SENSOR)            |
| 9                        | 7                       | 154-6717               | 5-TOOTH ALUMINUM DISK (3/8 BORE)                 |



RIGHT SIDE

LEFT SIDE

04:07

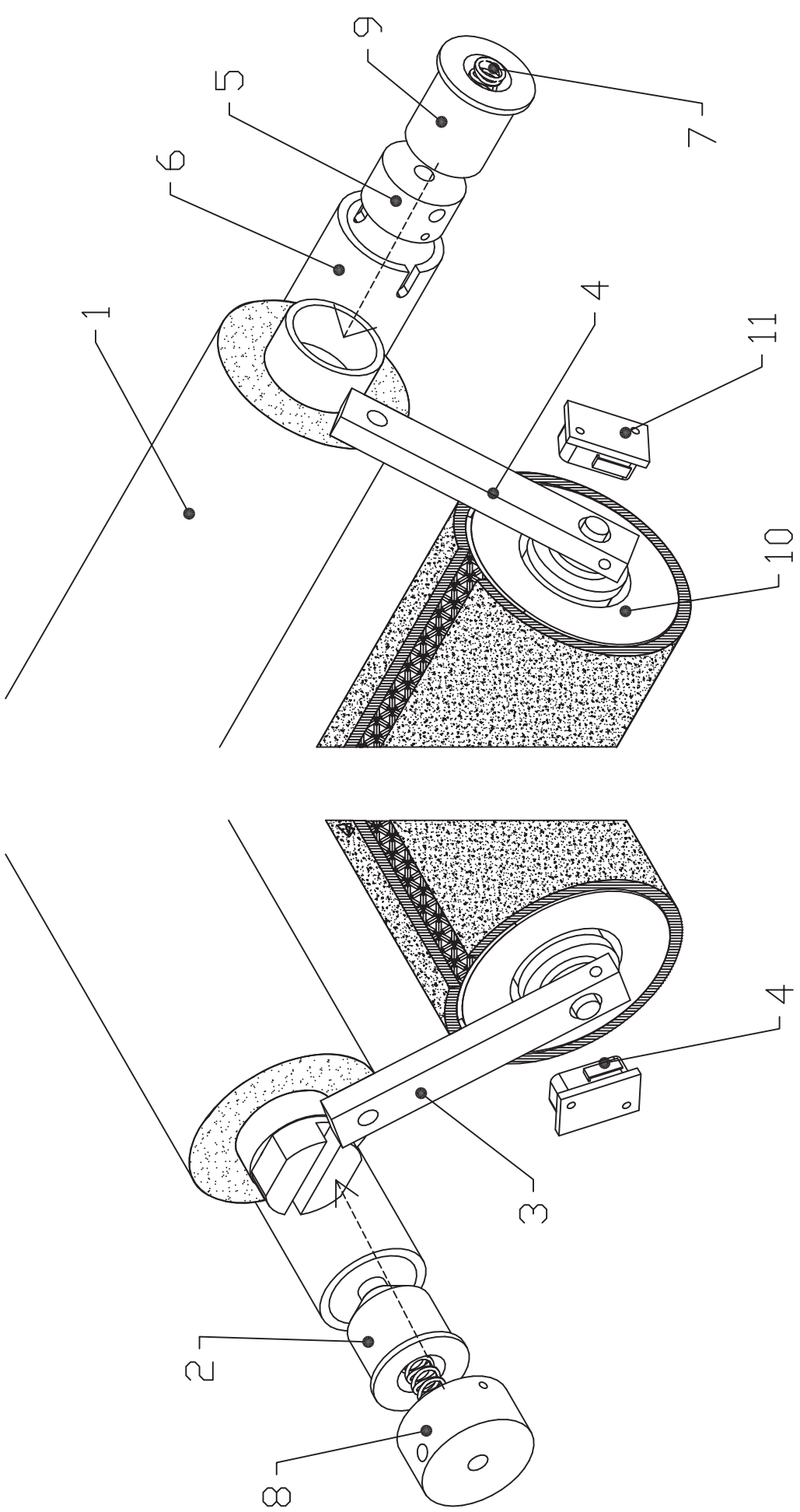


FIGURE 10

**FIGURE 10 PART NUMBERS**

| <b>FIGURE<br/>NUMBER</b> | <b>INDEX<br/>NUMBER</b> | <b>PART<br/>NUMBER</b> | <b>PART NAME &amp; DESCRIPTION</b>    |
|--------------------------|-------------------------|------------------------|---------------------------------------|
| 10                       | 1                       | 153-0047EZ             | DUSTER CLOTH                          |
| 10                       | 2                       | 153-6850               | UHMW DUSTER PLUG FOR CARDBOARD CORE   |
| 10                       | 3                       | 153-8420               | CUSHION ROLLER PIVOT ARM ASSEMBLY     |
| 10                       | 4                       | 153-1202               | MICROSWITCH-WITHOUT ROLLER            |
| 10                       | 5                       | 153-8202B              | DUSTER SOLID DRIVE HUB (PVC-1/4-28)   |
| 10                       | 6                       | 153-8824               | PVC TAKE-UP REEL ASSEMBLY (44-3/4")   |
| 10                       | 7                       | 153-2808               | SPRING - 0.42 OD X 1.25 (DUSTER PLUG) |
| 10                       | 8                       | 153-8201B              | DUSTER DRIVE HUB ASSEMBLY (1/4-28)    |
| 10                       | 9                       | 153-6853               | UHMW DUSTER PLUG FOR PVC TAKE-UP REEL |
| 10                       | 10                      | 153-8838               | CUSHION ROLLER (STEEL=44-3/8)         |
| 10                       | 11                      | 158-6240               | DUSTER SWITCH MOUNT PLATE             |

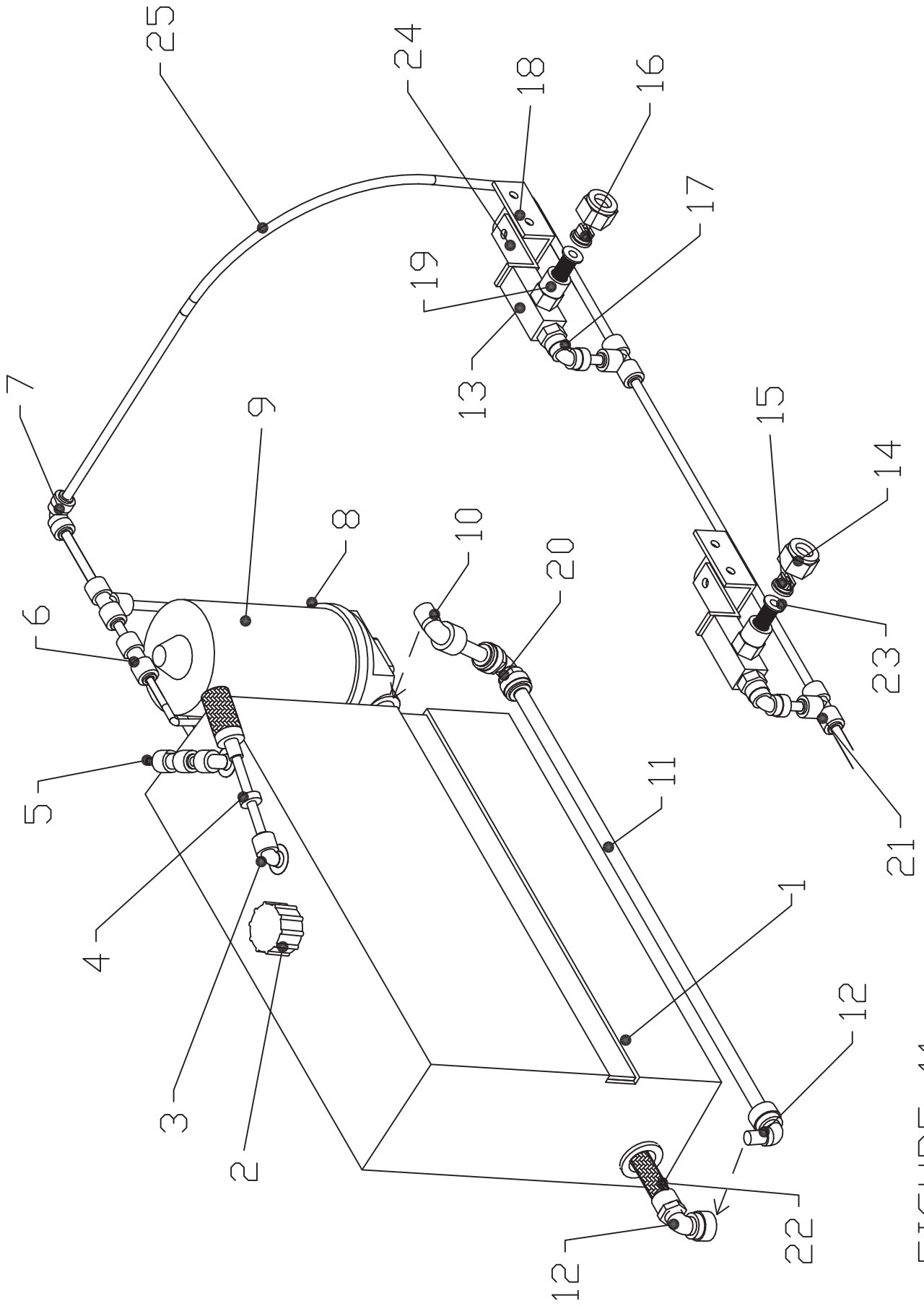


FIGURE 11

SKETCH REFERENCE NUMBERS FOR BATTERY CROSSFIRE MANUAL (09\_10)

**FIGURE 11 PART NUMBERS**

| <b>FIGURE NUMBER</b> | <b>INDEX NUMBER</b> | <b>PART NUMBER</b> | <b>PART NAME &amp; DESCRIPTION</b>              |
|----------------------|---------------------|--------------------|---|
| 11                   | 1                   | 154-6723           | CLEANER SUPPLY TANK (NO FITTINGS)               |
| 11                   | 1                   | 154-8840           | CLEANER SUPPLY TANK (COMPLETE)                  |
| 11                   | 2                   | 154-0832           | GARDEN HOSE FITTING CAP W/ GASKET               |
| 11                   | 3                   | 154-0223           | ELBOW (90 DEGREE) - 1/4 NPT X 1/4" TUBE         |
| 11                   | 4                   | 154-8817           | MANUAL VENT VALVE ASSEMBLY                      |
| 11                   | 5                   | 154-0202B          | PENCIL TUBING STOCK-3/16" OD X 1/16" ID         |
| 11                   | 6                   | 154-0248           | REDUCING UNION CONNECTOR-1/4" X 3/16"           |
| 11                   | 7                   | 154-0243           | ELBOW (90 DEGREE) 1/4 X 1/4 (GUEST)             |
| 11                   | 8                   | 154-0412           | ELBOW - 3/8 NPT X 1/4 TUBE                      |
| 11                   | 9                   | 158-8404           | WATER PUMP-24VDC (LOOKS DIFFERENT THAN PICTURE) |
| 11                   | 10                  | 154-0803           | ELBOW - 3/8 NPT X 3/8" TUBE                     |
| 11                   | 11                  | 154-0202           | PUMP TUBING STOCK (3/8" OD X 1/4" ID)           |
| 11                   | 12                  | 154-0225           | ELBOW - 3/8 TUBE OD X 1/4 NPT                   |
| 11                   | 13                  | 153-6252           | SPRAY JET BODY                                  |
| 11                   | 14                  | 153-0218           | TIP RETAINER CAP CONNECTOR                      |
| 11                   | 15                  | 153-0207A          | SPRAY TIP - STAINLESS STEEL (11003)             |
| 11                   | 16                  | 154-0007           | SPRAY TIP - STAINLESS STEEL (1501)              |
| 11                   | 17                  | 153-0818           | MALE SWIVEL ELBOW - 1/4 TUBE-1/4 NPT            |
| 11                   | 18                  | 158-6231           | SPRAY JET WALL MOUNT ANGLE - CROSSFIRE          |
| 11                   | 19                  | 153-0217           | MALE BODY (1/4 - NYLON)                         |
| 11                   | 20                  | 154-0256           | ELBOW - 3/8 TUBE X 3/8 TUBE                     |
| 11                   | 21                  | 153-0815           | UNION TEE (1/4 X 1/4 X 1/4-QUICK DISC)          |
| 11                   | 22                  | 154-0212B          | FILTER FOR SUPPLY TANK (5" SS) PVC              |
| 11                   | 23                  | 153-0220           | SCREEN CHECK VALVE (POLYPROPYLENE - 10#)        |
| 11                   | 24                  | 153-6251S          | SPRAY JET SWIVEL MOUNTING ANGLE                 |
| 11                   | 25                  | 154-0202A          | PENCIL TUBING STOCK - 1/4" OD X 1/8" ID         |

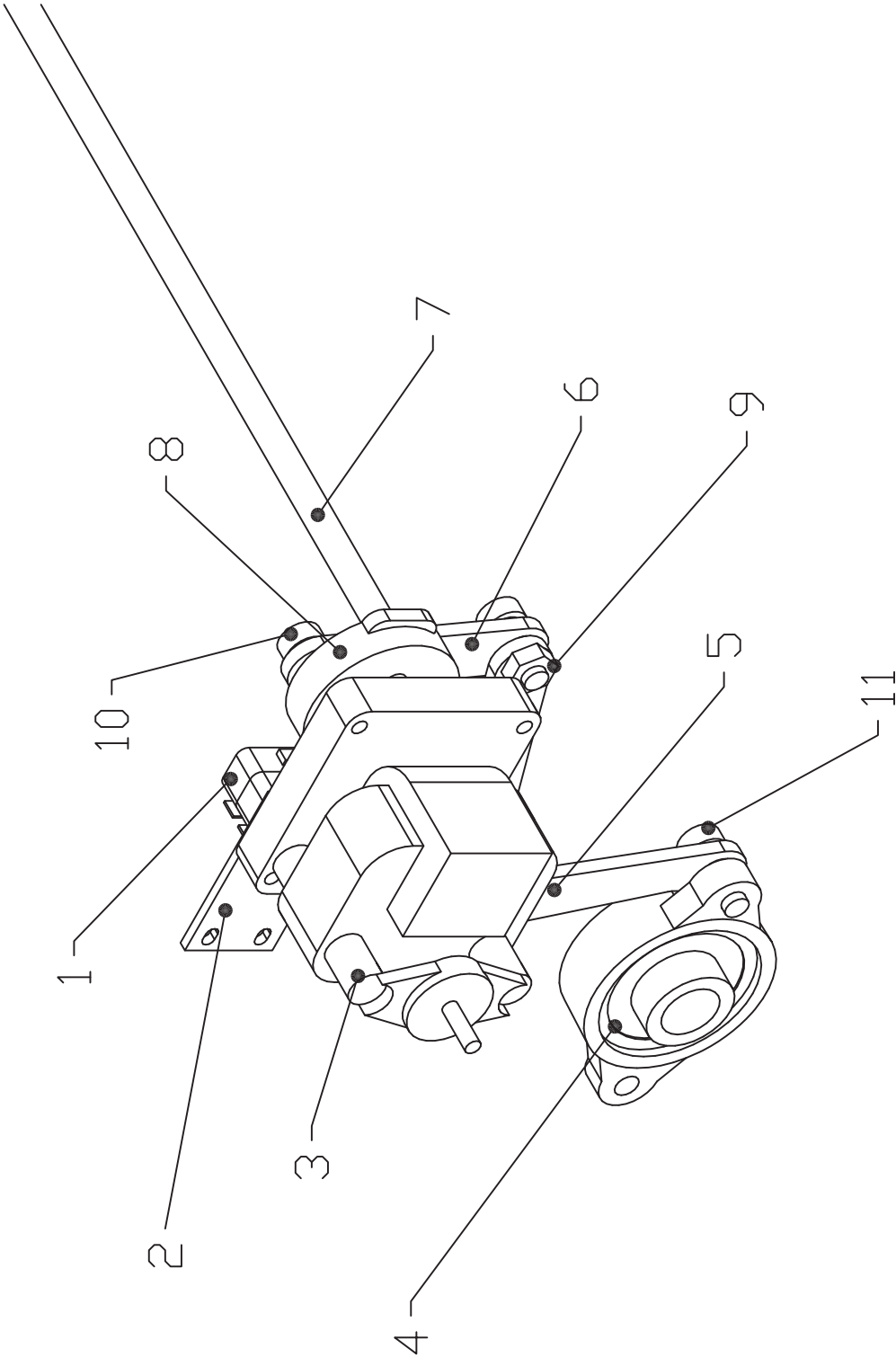


FIGURE 12

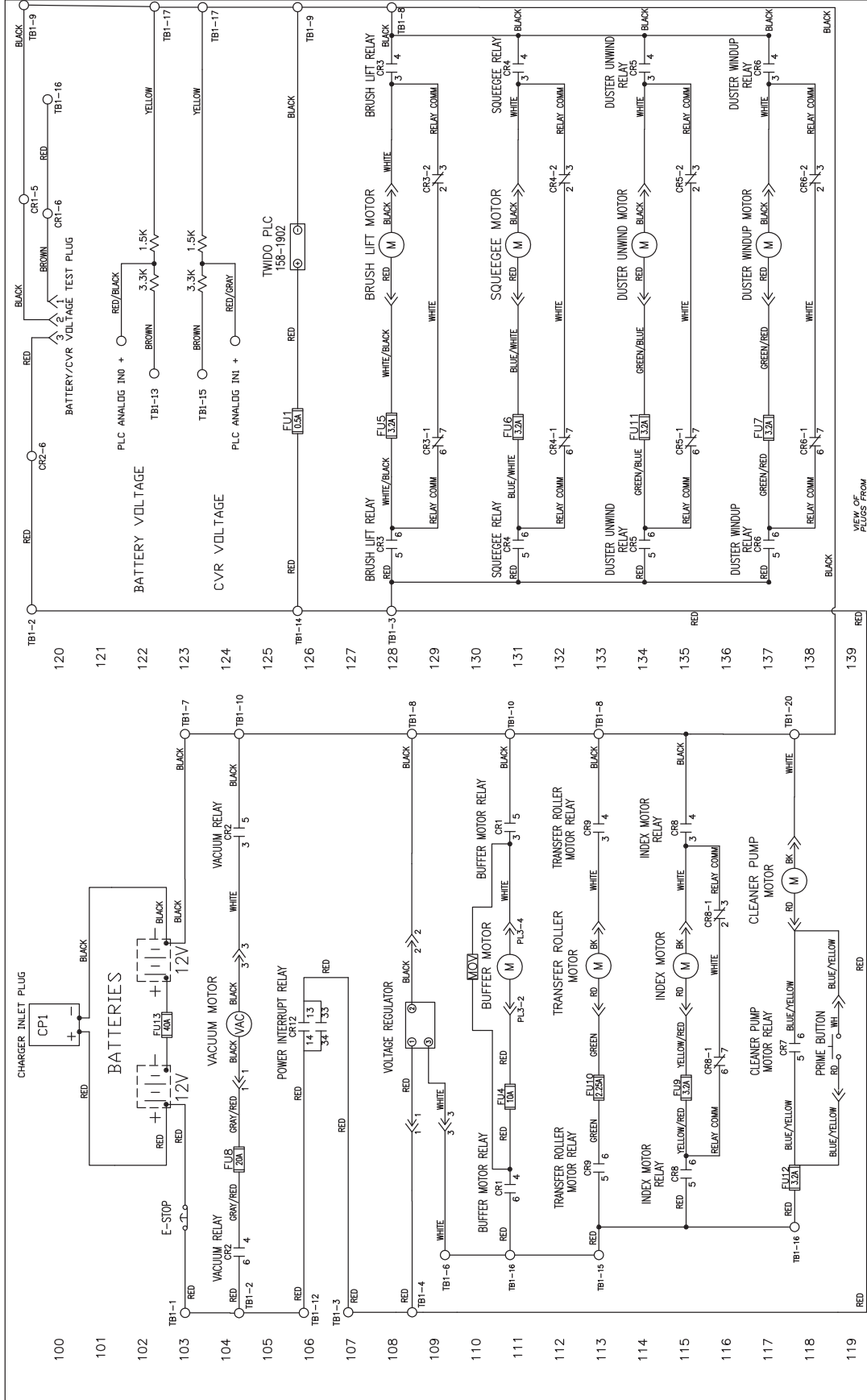
**FIGURE 12 PART NUMBERS**

| <b>FIGURE NUMBER</b> | <b>INDEX NUMBER</b> | <b>PART NUMBER</b> | <b>PART NAME &amp; DESCRIPTION</b>            |
|----------------------|---------------------|--------------------|---|
| 12                   | 1                   | 153-1203           | MICROSWITCH-WITH ROLLER (SQUEEGEE/BRUSH)      |
| 12                   | 2                   | 154-6824           | BRUSH CAM SWITCH PLATE                        |
| 12                   | 3                   | 158-8402           | BRAKE MOTOR ASSEMBLY (24VDC)                  |
| 12                   | 4                   | 154-8640           | FLANGED BEARING-STD BRUSH (3/4" ROTATED)      |
| 12                   | 5                   | 154-8638           | BUFFER BRUSH LIFTING LINK - LEFT              |
| 12                   | 5                   | 154-8639           | BUFFER BRUSH LIFTING LINK - RIGHT (NOT SHOWN) |
| 12                   | 6                   | 154-8837           | CAM TO BRUSH LIFTING ROD LINK ASSEMBLY        |
| 12                   | 7                   | 154-8637           | BUFFER BRUSH LIFTING ASSEMBLY                 |
| 12                   | 8                   | 154-6243           | MOTOR CAM-DUAL LOBES (STACKED SWITCHES)       |
| 12                   | 9                   | 153-2027A          | JAM NUT - 5/16-18                             |
| 12                   | 10                  | 153-2801           | SHOULDER BOLT-3/8 X 3/8 (5/16-18)             |
| 12                   | 11                  | 153-2801A          | SHOULDER BOLT-3/8 X 11/32 (5/16-18)           |

## Crossfire Wiring Diagrams

The following diagrams show wiring schematics for this lane machine. If you have any questions please call 863-734-0200 or email [tech@kegel.net](mailto:tech@kegel.net) .

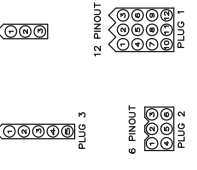
|                         |    |
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| Crossfire Wiring 1..... | 84 |
| Crossfire Wiring 2..... | 85 |
| Crossfire Wiring 3..... | 86 |
| Crossfire Wiring 4..... | 87 |
| Crossfire Wiring 5..... | 88 |



**LEGEND**

- TBI - TERMINAL BLOCK 1 (MAIN)
- TB2 - TERMINAL BLOCK 2 (REAR WALL)
- TB3 - TERMINAL BLOCK 3 (DIP-PIN SIDE)
- CR1 - BUFFER BRUSH MOTOR RELAY
- CR2 - VACUUM MOTOR RELAY
- CR3 - BRUSH LIFT MOTOR RELAY
- CR4 - SQUEEGEE LIFT MOTOR RELAY
- CR5 - DUSTER UNWIND MOTOR RELAY
- CR6 - DUSTER WINDUP MOTOR RELAY
- CR7 - INDEX MOTOR RELAY
- CR8 - TRANSFER MOTOR RELAY
- CR9 - TRANSFER MOTOR RELAY
- CR10 - REVERSE DRIVE RELAY
- CR11 - FORWARD DRIVE RELAY
- CR12 - POWER INTERRUPT RELAY
- FU1 - PLC INPUT POWER 0.5A
- FU2 - PLC OUTPUT COMMONS 0.5A
- FU3 - DRIVE MOTOR 7.5A
- FU4 - BUFFER MOTOR 10A
- FU5 - BRUSH LIFT MOTOR 3.2A
- FU6 - SQUEEGEE MOTOR 3.2A
- FU8 - VACUUM MOTOR 20A
- FU9 - INDEX MOTOR 3.2A
- FU10 - TRANSFER MOTOR 2.25A
- FU11 - DUSTER UNWIND MOTOR 3.2A
- FU12 - CLEANER PUMP 3.2A
- FU13 - BATTERY 40A

**VIEW OF PLUGS FROM CONTROLLER**



- FU1 - PLC INPUT POWER 0.5A
- FU2 - PLC OUTPUT COMMONS 0.5A
- FU3 - DRIVE MOTOR 7.5A
- FU4 - BUFFER MOTOR 10A
- FU5 - BRUSH LIFT MOTOR 3.2A
- FU6 - SQUEEGEE MOTOR 3.2A
- FU8 - VACUUM MOTOR 20A
- FU9 - INDEX MOTOR 3.2A
- FU10 - TRANSFER MOTOR 2.25A
- FU11 - DUSTER UNWIND MOTOR 3.2A
- FU12 - CLEANER PUMP 3.2A
- FU13 - BATTERY 40A

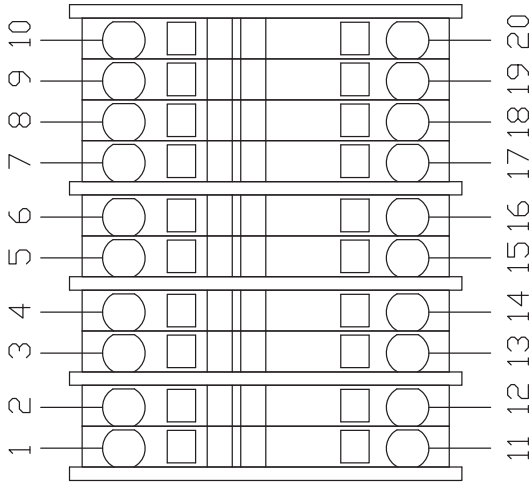
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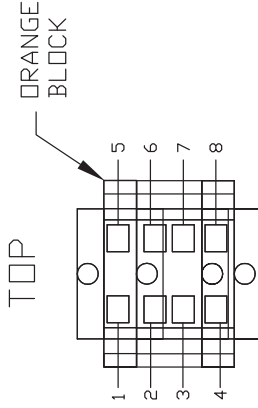
| MATERIAL  |          | DESCRIPTION                  |              |
|-----------|----------|------------------------------|--------------|
| N/A       |          | MOTOR WIRING SCHEMATIC       |              |
| DATE      | 07/06/09 | CROSSCHECK 24V MODEL A       |              |
| DRAWN BY  | SLS      | DO NOT SCALE DRAWING         |              |
| APPROVED: | HFG      | SIZE QTY/MACHINE PART NUMBER |              |
| DOC REV   |          | C N/A                        | SCALE N/A    |
|           |          |                              | SHEET 1 OF 5 |



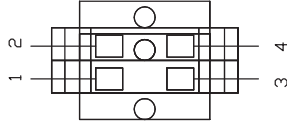
TB1



TB2  
TOP



TB3  
TOP



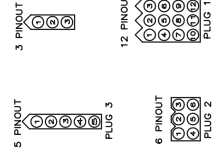
**LEGEND**

- PL1 - DRIVE SPEED BOARD (12)
- PL2 - AUXILIARY OIL TANK (6)
- PL3 - BUFFER MOTOR (5)
- CPI - CHARGER INLET PLUG
- TB1 - TERMINAL BLOCK 1 (MAIN)
- TB2 - TERMINAL BLOCK 2 (REAR WALL)
- TB3 - TERMINAL BLOCK 3 (10-PIN SIDE)

- CR1 - BUFFER BRUSH MOTOR RELAY
- CR2 - VACUUM MOTOR RELAY
- CR3 - BRUSH LIFT MOTOR RELAY
- CR4 - BRUSH LIFT MOTOR RELAY
- CR5 - DUSTER WINDUP MOTOR RELAY
- CR6 - DUSTER WINDUP MOTOR RELAY
- CR7 - CLEANER PUMP RELAY
- CR8 - INDEX MOTOR RELAY
- CR9 - TRANSFER MOTOR RELAY
- CR10 - FEEDBACK DRIVE RELAY
- CR11 - FEEDBACK DRIVE RELAY
- CR12 - POWER INTERRUPT RELAY

- FU1 - PLC INPUT POWER 0.5A
- FU2 - PLC OUTPUT COMMONS 0.5A
- FU3 - DRIVER MOTOR 7.5A
- FU4 - BRUSH LIFT MOTOR 3.2A
- FU5 - BRUSH LIFT MOTOR 3.2A
- FU6 - SOUEEGEE MOTOR 3.2A
- FU7 - DUSTER WINDUP MOTOR 3.2A
- FU8 - VACUUM MOTOR 20A
- FU9 - INDEX MOTOR 3.2A
- FU10 - TRANSFER MOTOR 3.2A
- FU11 - DUSTER WINDUP MOTOR 3.2A
- FU12 - CLEANER PUMP 3.2A
- FU13 - BATTERY 40A

PLUGS FROM CONTROLLER

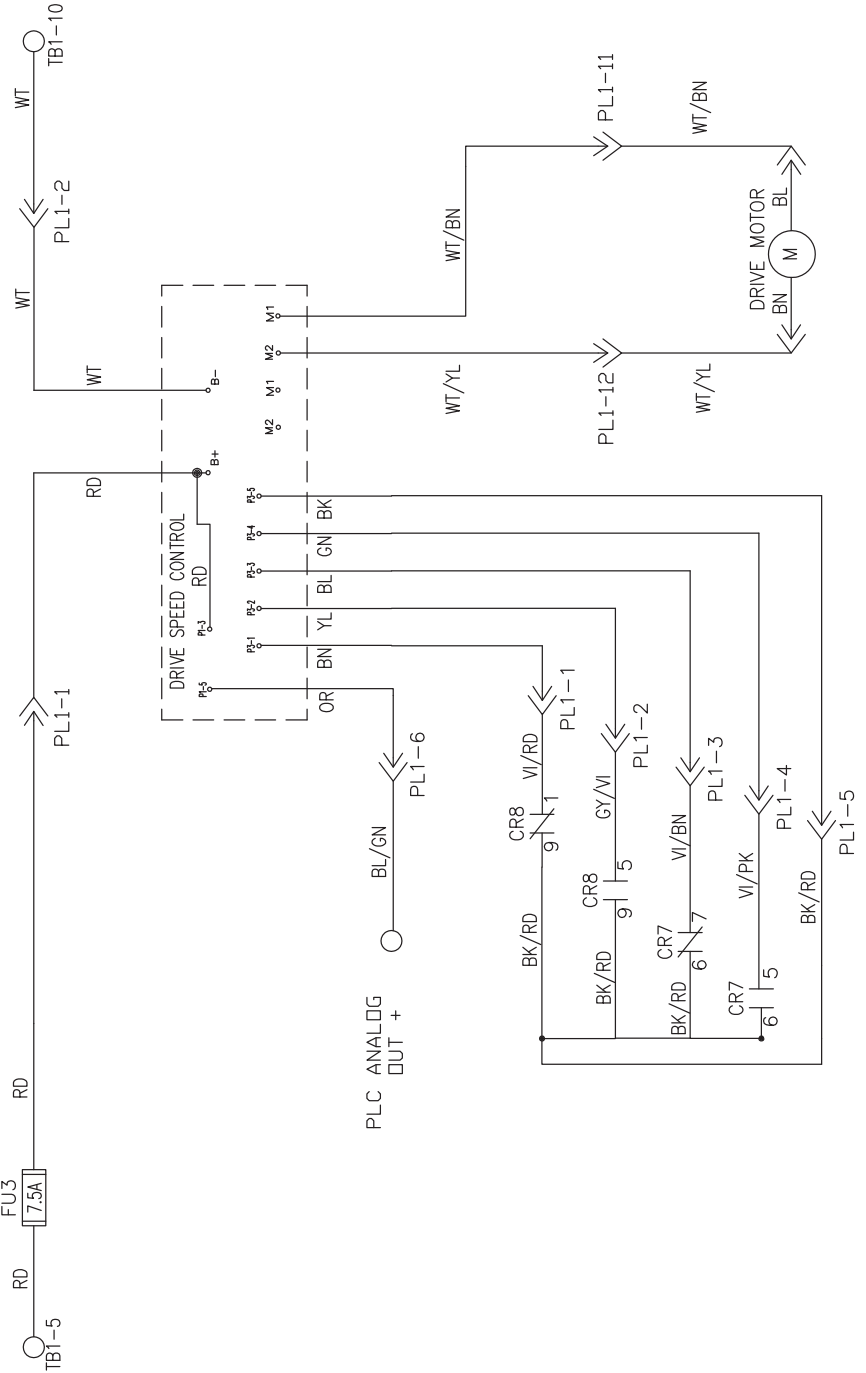


| REV      | LTR | DATE     | DESCRIPTION |
|----------|-----|----------|-------------|
| MATERIAL | NA  |          |             |
| DRAWN BY | NA  | 07/06/09 |             |
| APPROVED | SLS |          |             |
| DOC      | HTG |          |             |
| REV      |     |          |             |

| DESCRIPTION             | TERMINAL BLOCK LAYOUT |
|-------------------------|-----------------------|
| KEGEL                   |                       |
| DESCRIPTION             | TERMINAL BLOCK LAYOUT |
| SIZE                    | C                     |
| QTY/MACHINE PART NUMBER | 17-5600A              |
| SCALE                   | N/A                   |
| SHEET                   | 5 OF 5                |

1001 WINDLIFT BLDG.  
1003 WINDLIFT BLDG.  
(863) 734-0600

KEGEL P/N  
154-1270



- 400
- 401
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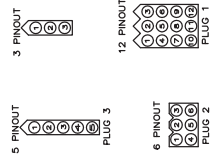
**LEGEND**

- PL1 - DRIVE SPEED BOARD (12)
- PL2 - AUXILIARY LUL TANK (6)
- PL3 - BUFFER MOTOR (5)
- CPI - CHARGER INLET PLUG
- TBI - TERMINAL BLOCK 1 (MAIN)
- TBE - TERMINAL BLOCK 2 (REAR WALL)
- TBS - TERMINAL BLOCK 3 (ID-PIN SIDE)

- CR1 - BUFFER BRUSH MOTOR RELAY
- CR2 - VACUUM MOTOR RELAY
- CR3 - BRUSH LIFT MOTOR RELAY
- CR4 - SQUEEGEE LIFT MOTOR RELAY
- CR5 - DUSTER UNWIND MOTOR RELAY
- CR6 - DUSTER WINDUP MOTOR RELAY
- CR7 - INDEX MOTOR RELAY
- CR8 - INDEX MOTOR RELAY
- CR9 - TRANSFER MOTOR RELAY
- CR10 - REVERSE DRIVE RELAY
- CR11 - FORWARD DRIVE RELAY
- CR12 - POWER INTERRUPT RELAY

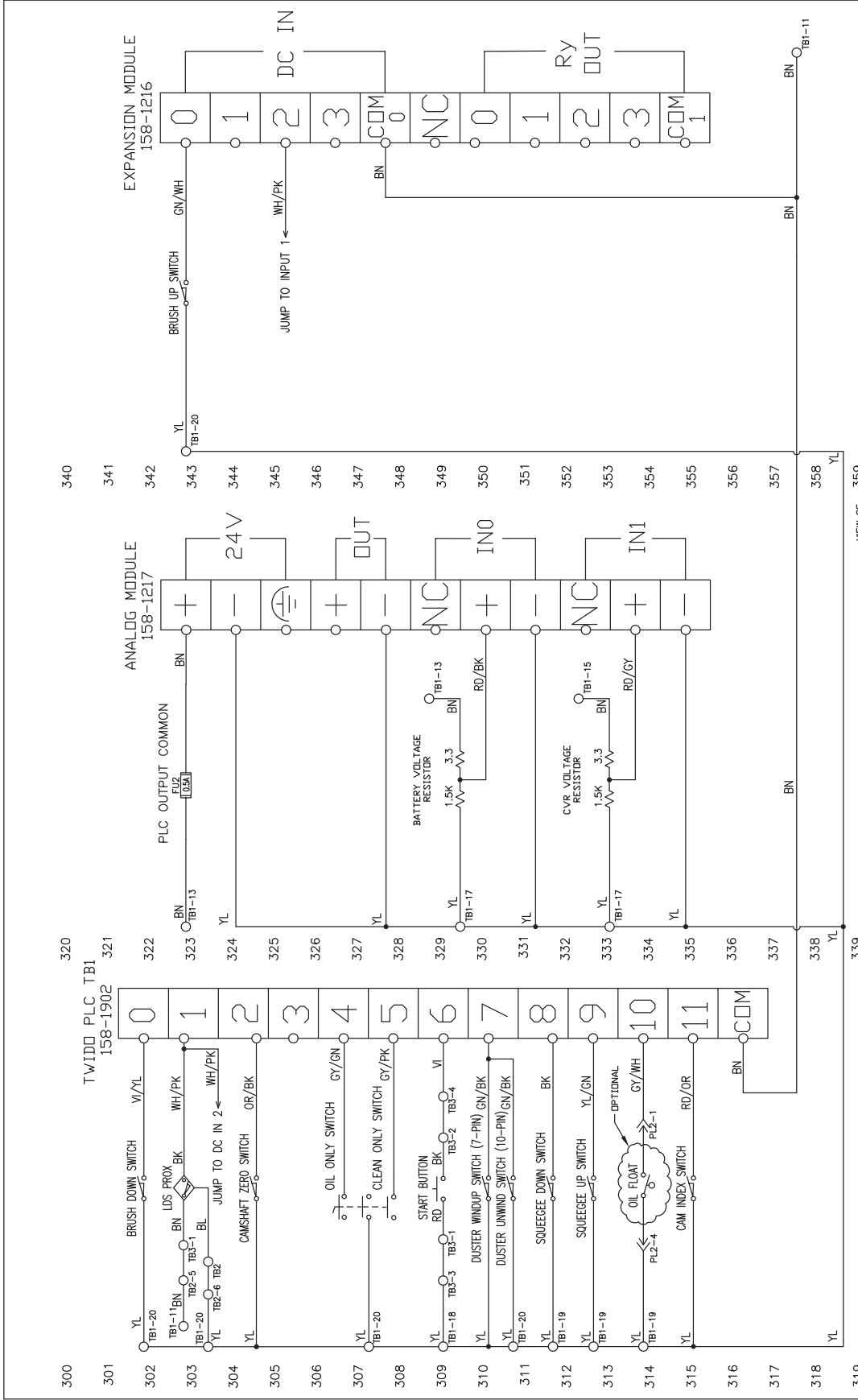
- FU1 - PLC INPUT PULVER 0.5A
- FU2 - PLC OUTPUT COMMONS 0.5A
- FU3 - DRIVE MOTOR 7.5A
- FU4 - BUFFER MOTOR 10A
- FU5 - BRUSH LIFT MOTOR 3.2A
- FU6 - SQUEEGEE MOTOR 3.2A
- FU7 - VACUUM MOTOR 20A
- FU8 - INDEX MOTOR 3.2A
- FU9 - INDEX MOTOR 2.25A
- FU10 - TRANSFER MOTOR 3.2A
- FU11 - DUSTER UNWIND MOTOR 3.2A
- FU12 - CLEANER PUMP 3.2A
- FU13 - BATTERY 40A

VIEW OF PULVER FROM CONTROLLER



| REV | LTR | DATE | DESCRIPTION |
|-----|-----|------|-------------|
| N/A |     |      |             |

| MATERIAL |  | DESCRIPTION           |                         |
|----------|--|-----------------------|-------------------------|
| N/A      |  | 1991 LONGLEAF BLDG    |                         |
|          |  | LACE VALVE, PL 33599  |                         |
|          |  | (REV) 754-0200        |                         |
|          |  | CROSSFIRE 24V MODEL A |                         |
|          |  | DO NOT SCALE DRAWING  |                         |
|          |  | SIZE                  | QTY/MACHINE PART NUMBER |
|          |  | C                     | N/A                     |
|          |  | SCALE                 | N/A                     |
|          |  | 17-5600A              |                         |
|          |  | HIBERT                | 4 DF 5                  |



| REV | LTR | DATE | DESCRIPTION |
|-----|-----|------|-------------|
| N/A |     |      |             |

| MATERIAL      |  | DESCRIPTION                    |  |
|---------------|--|--------------------------------|--|
| N/A           |  | KEGEL                          |  |
| DRAWN BY: SLS |  | DATE: 07/06/09                 |  |
| APPROVED: HFG |  | REV DATE: DO NOT SCALE DRAWING |  |
| DOC: HFG      |  | SIZE: QTY/MACHINE PART NUMBER  |  |
| REV: HFG      |  | SCALE: N/A                     |  |
|               |  | SHEET 3 OF 5                   |  |

| REV | LTR | DATE | DESCRIPTION |
|-----|-----|------|-------------|
| N/A |     |      |             |

| MATERIAL      |  | DESCRIPTION                    |  |
|---------------|--|--------------------------------|--|
| N/A           |  | KEGEL                          |  |
| DRAWN BY: SLS |  | DATE: 07/06/09                 |  |
| APPROVED: HFG |  | REV DATE: DO NOT SCALE DRAWING |  |
| DOC: HFG      |  | SIZE: QTY/MACHINE PART NUMBER  |  |
| REV: HFG      |  | SCALE: N/A                     |  |
|               |  | SHEET 3 OF 5                   |  |

VIEW OF PLUGS FROM CONTROLLER

3 PINOUT

5 PINOUT

12 PINOUT

6 PINOUT

PLUG 1

PLUG 2

PLUG 3

FU1 - PLC INPUT POWER 0.5A  
 FU2 - DUSTUM MOTOR 0.5A  
 FU3 - DRIVE MOTOR 0.5A  
 FU4 - BUFFER MOTOR 3.2A  
 FU5 - BRUSH LIFT MOTOR 3.2A  
 FU6 - SQUEEGEE MOTOR 3.2A  
 FU7 - DUSTER WINDUP MOTOR 3.2A  
 FU8 - DUSTER UNWIND MOTOR 3.2A  
 FU9 - TRANSFER MOTOR 2.25A  
 FU10 - DUSTER MOTOR 3.2A  
 FU11 - DUSTER WINDUP MOTOR 3.2A  
 FU12 - CLEANER PUMP 3.2A  
 FU13 - BATTERY 40A

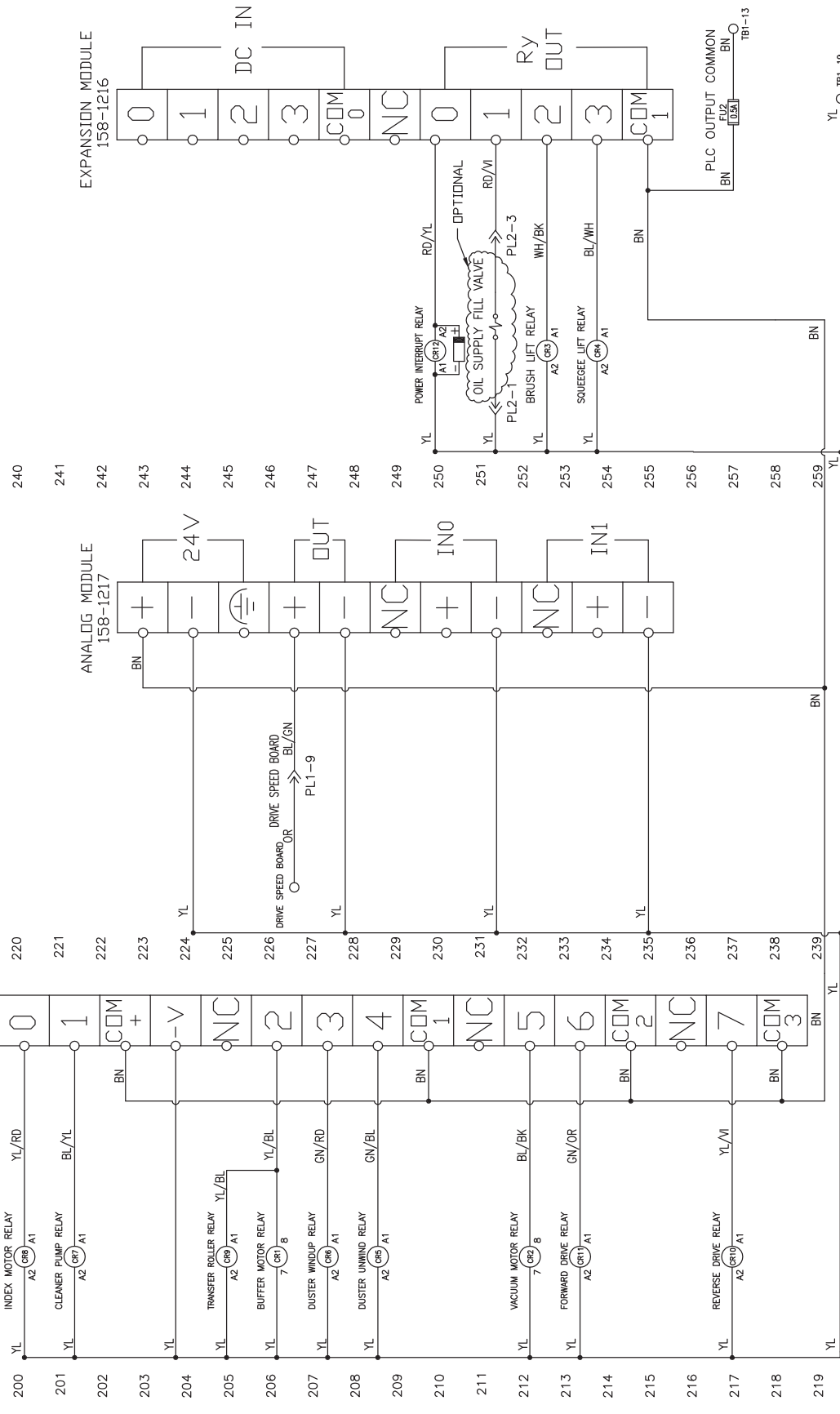
CR1 - BUFFER BRUSH MOTOR RELAY  
 CR2 - DUSTUM MOTOR RELAY  
 CR3 - BRUSH LIFT MOTOR RELAY  
 CR4 - SQUEEGEE LIFT MOTOR RELAY  
 CR5 - DUSTER UNWIND MOTOR RELAY  
 CR6 - DUSTER WINDUP MOTOR RELAY  
 CR7 - CLEANER PUMP RELAY  
 CR8 - TRANSFER MOTOR RELAY  
 CR9 - DUSTER MOTOR RELAY  
 CR10 - REVERSE DRIVE RELAY  
 CR11 - FORWARD DRIVE RELAY  
 CR12 - POWER INTERRUPT RELAY

PL1 - DRIVE SPEED BOARD (12)  
 PL2 - BUFFER MOTOR (6)  
 PL3 - DUSTER MOTOR (6)  
 CPI - CHARGER INLET PLUG

TB1 - TERMINAL BLOCK 1 (MAIN)  
 TB2 - TERMINAL BLOCK 2 (REAR WALL)  
 TB3 - TERMINAL BLOCK 3 (10-PIN SIDE)

TWIDO PLC TB2  
158-1902



**LEGEND**  
 PL1 - DRIVE SPEED BOARD (12)  
 PL2 - AUXILIARY OIL TANK (6)  
 PL3 - BUFFER MOTOR (4S)  
 CP1 - CHARGER INLET PLUG  
 TB1 - TERMINAL BLOCK 1 (MAIN WALL)  
 TB2 - TERMINAL BLOCK 2 (TOP-PIN SIDE)  
 TB3 - TERMINAL BLOCK 3 (TOP-PIN SIDE)

CR1 - BUFFER BRUSH MOTOR RELAY  
 CR2 - VACUUM MOTOR RELAY  
 CR3 - BRUSH LIFT MOTOR RELAY  
 CR4 - SQUEEGEE LIFT MOTOR RELAY  
 CR5 - DUSTER UNWIND MOTOR RELAY  
 CR6 - DUSTER WINDUP MOTOR RELAY  
 CR7 - CLEANER PUMP RELAY  
 CR8 - INDEX MOTOR RELAY  
 CR9 - TRANSFER MOTOR RELAY  
 CR10 - REVERSE DRIVE RELAY  
 CR11 - FORWARD DRIVE RELAY  
 CR12 - POWER INTERRUPT RELAY

FU1 - PLC INPUT POWER 0.5A  
 FU2 - PLC OUTPUT COMMONS 0.5A  
 FU3 - DRIVE MOTOR 7.5A  
 FU4 - BUFFER MOTOR 10A  
 FU5 - BRUSH LIFT MOTOR 3.2A  
 FU6 - SQUEEGEE LIFT MOTOR 3.2A  
 FU7 - DUSTER UNWIND MOTOR 3.2A  
 FU8 - VACUUM MOTOR 20A  
 FU9 - INDEX MOTOR 3.2A  
 FU10 - TRANSFER MOTOR 2.25A  
 FU11 - DUSTER UNWIND MOTOR 3.2A  
 FU12 - CLEANER PUMP 3.2A  
 FU13 - BATTERY 40A

3 PINOUT  
 5 PINOUT  
 6 PINOUT  
 12 PINOUT

| REV | LTR | DATE | DESCRIPTION |
|-----|-----|------|-------------|
| N/A |     |      |             |

| MATERIAL  |          | DESCRIPTION           |                         |
|-----------|----------|-----------------------|-------------------------|
| DATE      | 07/06/09 | CROSSSTEP 24V MODEL A | DO NOT SCALE DRAWING    |
| APPROVED: |          | SIZE                  | QTY/MACHINE PART NUMBER |
| HFG       |          | C                     | N/A                     |
| SCALE     | N/A      | 17-5600A              |                         |
| REV       |          | SHEET                 | 2 OF 5                  |

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 (888) 734-0800



**“Take care of your lane machine and it will take care of you”**