

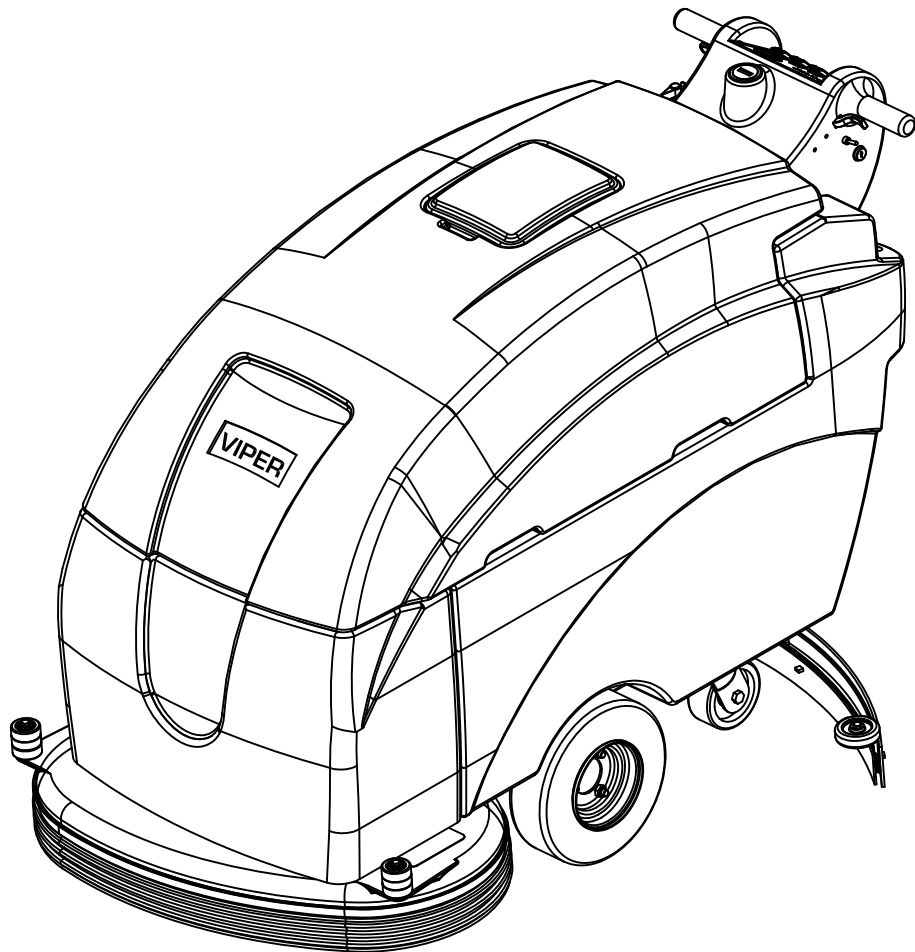


AUTO SCRUBBERS

www.usviper.com

OWNERS MANUAL

IMPORTANT: READ OWNERS MANUAL CAREFULLY
Please fill out & return your warranty card !



MODEL #

FANG 32T

SERIAL #

VIPER NORTH AMERICA
P.O. BOX 104
HAMILTON, MI 49419

VIPER...exceptional
value

[866] 418-4737
[866] 41-VIPER

REV.01(03-11)
84902



CONGRATULATIONS on your purchase of a Viper product, and welcome to the V.I.P. family. We appreciate your business and will do everything in our power to keep you happy with your purchase for many years to come.

As part of the V.I.P. family, you are entitled to the best protection by one of the most comprehensive warranties in the industry.

Thank-you for purchasing Viper products!

Tom VanderBie, CEO

| |
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SAFETY PRECAUTIONS

This machine is intended for commercial use. It is constructed for use in an indoor environment and is not intended for any other use. Use only with recommended accessories.

All operators shall read, understand and exercise the following safety precautions:

1) DO NOT OPERATE MACHINE:

- Unless trained and authorized.
- Unless you have read and understand the operators manual.
- In flammable or explosive areas.
- If not in proper operating condition.
- In outdoor areas.

2) BEFORE OPERATING MACHINE:

- Make sure all safety devices are in place and operate properly.

3) WHEN USING MACHINE:

- Go slow on inclines and slippery surfaces.
- Follow all safety guidelines.
- Be very careful when using the machine in reverse.
- Report and fix any damage to machine prior to operating it.

4) BEFORE LEAVING OR SERVICING MACHINE:

- Stop machine on level ground.
- Turn machine off.

5) WHEN SERVICING MACHINE:

- Read operators manual thoroughly prior to operating or servicing this machine.

- Use manufacturer supplied or approved replacement parts.
- Secure machine with wheel blocks prior to jacking the machine up.
- Use approved jack or hoist to safely elevate the machine.
- Disconnect batteries prior to working on machine.
- Wear gloves when handling batteries or battery cables.
- Avoid any contact with battery acid.
- Avoid moving parts. Do not wear loose fitting clothing while servicing machine.

WARNING

: Batteries emit hydrogen gas. Explosion or fire can result from hydrogen gas. Keep sparks and open flames away! Keep battery compartment open when charging.

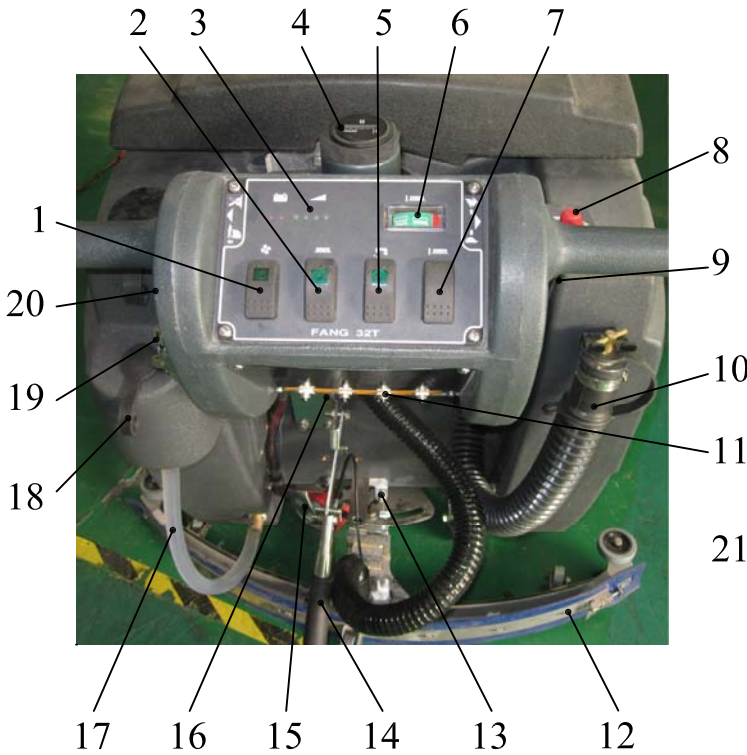
WARNING

: Flammable materials can cause an explosion or fire. Do not use flammable materials in tanks.

WARNING

: Flammable materials or reactive metals can cause explosion or fire. Do not pick up.

MACHINE COMPONENTS



- 1. Vacuum ON/OFF switch
- 2. Brush ON/OFF switch
- 3. Battery level meter
- 4. Hour meter
- 5. Solution ON/OFF switch
- 6. Brush pressure meter
- 7. Brush pressure UP/DOWN switch
- 8. Solution control knob
- 9. Speed control knob
- 10. Recovery tank drain hose
- 11. Circuit breakers
- 12. Squeegee assembly
- 13. Squeegee adjustment nut & shaft
- 14. Squeegee lift lever
- 15. Rear casters
- 16. Console adjustment levers

- 17. Solution tank level sight tube
- 18. Rear solution fill
- 19. Key switch
- 20. Reverse switch
- 21. Front cover
- 22. Scrub head
- 23. Protective rollers
- 24. Scrub head door
- 25. Transport wheels
- 26. Solution tank
- 27. Operating triggers
- 28. Control housing
- 29. Recovery tank lid
- 31. Solution filter assembly

MACHINE SET UP & INSTALLATION

UNCRATING MACHINE

Be sure and check packing carton for any damage. Immediately report any damage to carrier. Check contents of package to ensure that the following items are included: Machine, batteries (x6), squeegee assembly, battery charger and pad drivers. (batteries and charger may be on separate skid)

BATTERY CONNECTIONS

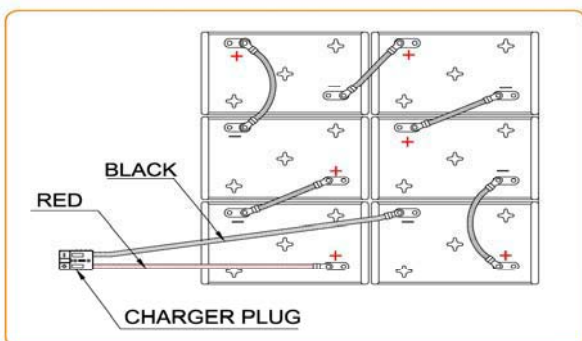
The batteries and charger are shipped separately and will need to be installed and connected as shown in the diagram below.

WARNING

Batteries emit hydrogen gas.

Explosion or fire can result from hydrogen gas. Keep sparks and open flames away! Keep battery compartment open while charging.

1. Be sure the power switch is in the "off" position.
2. Open recovery tank to gain access to battery compartment.
3. Carefully place the six batteries into the compartment as shown in figure below. Place the battery brace at the rear of the batteries.
4. Connect battery cables to posts in order as shown in diagram below. (RED to POSITIVE and BLACK to NEGATIVE)



5. Apply a coating or protective spray on the cable connections to prevent battery corrosion.

DO NOT DROP THE BATTERIES INTO COMPARTMENT!

MACHINE SET UP

PRE-OPERATION CHECKS

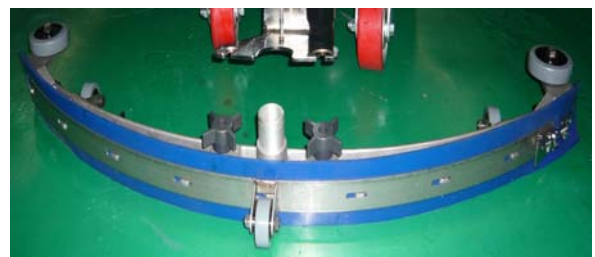
1. Sweep or dust mop the surface to be cleaned.
2. Check battery meter to make sure batteries are fully charged. (SEE BATTERY CHARGING)
3. Ensure squeegee is properly installed.
4. Ensure that brush/pad is properly installed.

INSTALLING PAD DRIVERS OR BRUSHES

1. Ensure the machine is turned off.
2. Raise the brush head assembly off the floor by pushing on the brush lift button on the control console.
3. Slide back the viewing window panel on the aluminum deck housing.
4. If using a pad driver, first attach the appropriate pad to the bottom of the driver.
5. Slide the pad driver under the deck and look through the viewing panel and line the three lugs with the three holes in the drive motor hub. Once in the holes, rotate the driver toward the spring clip to lock the driver in place

MOUNTING THE SQUEEGEE

1. Pull the squeegee lift lever to raise the squeegee bracket up.
2. Loosen the two knobs on the squeegee and slide the squeegee into the slots at the rear of the squeegee bracket. (the wheels on the squeegee point to the back)
3. Tighten the knobs securely.
4. Secure the vacuum hose on the pick-up tube of the squeegee.



FILLING THE SOLUTION TANK

1. The FANG32T can only be filled in the rear of the machine. There is a fill cap that can be removed so the tank can be filled with a hose.
2. Fill the solution tank with up to 30 gallons of water. (water temperature should not exceed 140 degrees F)
3. The clear tube under the fill port has gallon markers to help determine the water level in the solution tank.

WARNING

:Do not put any flammable materials into solution tank. This can cause an explosion or a fire. Only use recommended cleaning chemicals. Contact your Viper distributor for recommended chemicals.

MACHINE OPERATION


WARNING

:Do not operate machine unless you have read and understand this manual.

1. Before the machine will operate, the key switch must be turned into the "on" position. The key is located on the left side of the control housing. (see machine components, item #19)
2. Set control housing to a comfortable operating height by squeezing together the tow thumb levers directly underneath the housing (see machine components item #16)
3. Lower squeegee assembly to the floor. There is a squeegee lift handle located on the back left of the machine, just under the control housing. (see machine components, item #14) Slightly lift up on the handle and move it to the right, the squeegee is now ready to be lowered to the floor.
4. Lower the brush head to the floor by pushing the brush lower button on the control housing. (see machine components, item #7)
5. Turn vacuum motor switch to "on" position. (see machine components, item #1)
6. Turn the brush motor switch to "on" position. (see machine components, item #2)
 - a. **Brushes will not spin until the operating triggers are pulled.**
7. Turn the solution switch to "on" position. (see machine components, item #3)
 - a. **Solution will not begin to flow until the operating triggers are pulled.**
8. To begin scrubbing, pull on one or both of the red operating triggers. (see machine components, item #27) When the triggers are pulled, the brushes will begin to spin, the solution will begin to flow, and the machine will propel itself.
9. This machine is self-propelled. The speed can be adjusted by a dial located on the right side of the control housing. (see machine components, item #9)
10. This machine has reverse. In order to activate reverse, there is a toggle switch on the left side of the control housing. (see machine components, item #20) The toggle switch must be pulled / pressed to activate reverse motion.

HINT

:Do not keep the machine in the same position with the pad / brush spinning , or you could cause damage to the floor.

11. Adjust the amount of solution flow by turning the solution control knob. Turn the knob to the right for more solution, or turn left for less solution. (see machine components, item #8)
12.  There is a hour meter located on the top of the control housing. (see machine components, item #4) The operator can see the operation time.

WHILE OPERATING MACHINE

1. Occasionally look through the clear recovery tank lid to see if there is any foam build-up. If excessive foam is found, add defoamer to the recovery tank.

WARNING

:Foam must not enter the float shut-off screen, or damage can occur to the vacuum motor. Foam will not activate the machines float shut-off device.

2. Occasionally view the clear tube at the back left of the machine to check the amount of cleaning solution that is left in the machine.
3. Occasionally check the battery level meter. (see machine components, item #3) When the meter is in the red, recharge the batteries.

WARNING

:When battery meter is in the red, do not continue to operate the machine. Battery damage may occur.

4. If the squeegee assembly leaves streaks on the floor, raise the squeegee off the floor and wipe the blades down with a damp cloth.

WARNING

:Do not use your fingers to wipe or remove debris from the blades, as injury may occur.

5. When the solution tank runs empty, turn off the brush switch, solution switch, and raise the brush head. Keep the squeegee down and continue to vacuum until all the dirty water is picked up. (see TANK DRAINING section to learn how to drain recovery and solution tanks)

HINT

:The brush motors are circuit breaker protected to protect them from damage. If a breaker trips, it can't be reset immediately. You must first determine what caused the breaker to trip, and allow the motor to cool down before you can reset the breaker. The

breakers are located on the rear panel of the control housing.

TANK DRAINING

1. Turn the power off on the machine
2. With the squeegee and brush head in their "up" position, transport the machine to an approved area for draining the tank(s).

DRAINING THE RECOVER(DIRTY) TANK

HINT

:Anytime scrubbing is completed, or when refilling the solution tank, the recovery tank should also be drained and cleaned.

WARNING

If the recovery tank is not drained when the solution tank has been refilled, foam or water may enter the float shut-off mechanism and cause damage to the vacuum motor.

1. Remove the drain hose from the holder and place the drain hose over a floor drain. Twist off the drain hose plug to begin the draining process. In order to completely empty the recovery tank, hinge open the recovery tank and let it rest on the support stand.
2. Clean the recovery tank after every use. Use a fresh water hose to rinse out the inside of the tank. Be careful not to spray water into the float shut-off mechanism.

HINT

:If you are storing the machine for any period of time, always leave the clear recovery tank lid off the tank so the tank may dry completely, and smell fresh.

2. Replace the drain hose plug tightly as soon as you are done draining the tank.

DRAINING THE SOLUTION(CLEAN)TANK

HINT

:Anytime scrubbing operation is completed, the solution tank should be drained and cleaned.

1. Pull down on the clear tube (back left of the machine) to remove it from the hose barb. This will allow the solution to flow freely into a bucket or floor drain.
2. Rinse the solution tank with clean water after every use. This will help prevent chemical buildup and clogging of the solution lines.
3. With clean water in the solution tank, turn machine power on, solution switch "on" and pull the operating triggers. This will allow the clean water to flush through and clean the solution plumbing.
4. Once the tank is rinsed, flushed and drained, reconnect the clear tube to the hose barb. Be sure the tube is pushed all the way up on the hose barb

BATTERY CHARGING

WARNING

:Use only approved chargers with the following specifications:

- Automatic shut-off circuit
- Deep cycle charging
- Output current of 20-30 Amps.
- Output voltage of 36 volts.

HINT

:For the best machine performance, keep batteries charged at all times. Do not let them sit in a discharged condition discharged condition.

WARNING

:Batteries are dangerous! Batteries emit hydrogen gas and an explosion or fire can result. Keep sparks and fire away from batteries at all times. When charging the

machine, make sure the battery compartment is left open.

1. Place charger and machine in a well ventilated area.
2. Turn machine off.
3. Open recovery tank up, exposing battery compartment.
4. Check fluid level in each battery cell. Do not charge batteries unless fluid is slightly covering the battery plates. Do not overfill the batteries. Overfilling may cause the batteries to overflow during charging due to expansion. Replace the caps prior to charging.
5. Plug approved charger into grounded wall outlet before plugging the charger into the machine.
6. Plug charger into grey charger receptacle located in the front left of the battery compartment.
7. Flip up the recovery tank "kick stand" and gently lay the recovery tank down until it rests on the stand.
8. The charger will automatically begin to charge the batteries, and it will automatically shut down once the batteries are fully charged.
9. Upon completion of charging, first unplug the charger from the wall outlet and then disconnect the charger from the machine.
10. Check the battery fluid level after charging is completed. If the fluid level is low, add distilled water to bring the fluid level up to the bottom of the sight tubes. Replace the caps and wipe the batteries down with a towel.



PREVENTITIVE MAINTENANCE

WARNING

Before performing any maintenance on the machine, be sure that the power is turned off, or the batteries disconnected.

WARNING

Repairs are to be completed by an authorized Viper service center only. Any repairs completed by unauthorized persons will void the warranty.

DAILY MAINTENANCE

1. Remove pad driver / brush and clean with approved cleaner.
2. Drain recovery and solution tanks completely and rinse out with clean water. Visually check the recovery tank for debris and clean out as necessary.
3. Raise squeegee assembly off the floor and wipe it down with a damp towel. Be sure to store the squeegee in the up position.
4. Remove the float shut-off assembly and rinse it out with clean water.



5. Clean machine with an approved cleaner and a damp towel.
6. Recharge batteries.

WEEKLY MAINTENANCE

1. Check fluid level in batteries.

2. Check batteries for loose or corroded cables.
3. Keep battery tops clean from corrosion.

MONTHLY MAINTENANCE

1. Check machine for leaks and loose fasteners.
2. Lubricate all grease points and pivot points with silicon spray and approved grease.
3. Place machine over a floor drain. Flush solution system by pouring 3 gallons of hot water and approved alkaline detergent into the solution tank and running machine (with solution control on) for 45 seconds. Turn machine off and let it sit over-night. The following day, drain the remaining solution and rinse the solution tank out with clean water.

VACUUM MOTOR MAINTENANCE

1. Contact your local Viper Distributor for any motor maintenance.
2. Vacuum motor should have the brushes checked every 250 hours. Brushes should be replaced when they are worn to a length of 10mm or less.

BATTERY MAINTENANCE

HINT

:For the best machine performance, keep batteries charged at all times. Do not let them sit in a discharged condition.

WARNING

:Batteries are dangerous! Batteries emit hydrogen gas and an explosion or fire can result. Keep sparks and fire away from batteries at all time.

WARNING

:Whenever servicing batteries, be sure to wear protective gloves. Avoid contact with battery acid at all times!

1. Always follow the battery charging directions as outlined in the BATTERY CHARGING section of this manual.

2. Keep battery tops and terminals free from corrosion. A strong solution of baking soda and water is the best way to keep the batteries corrosion free. **DO NOT ALLOW THE BAKING SODA / WATER SOLUTION TO ENTER THE BATTERY CELLS.**
3. Use a wire brush with the baking soda solution to properly clean the battery posts and connections.
4. Check battery connections for wear and loose terminals. Replace if necessary.

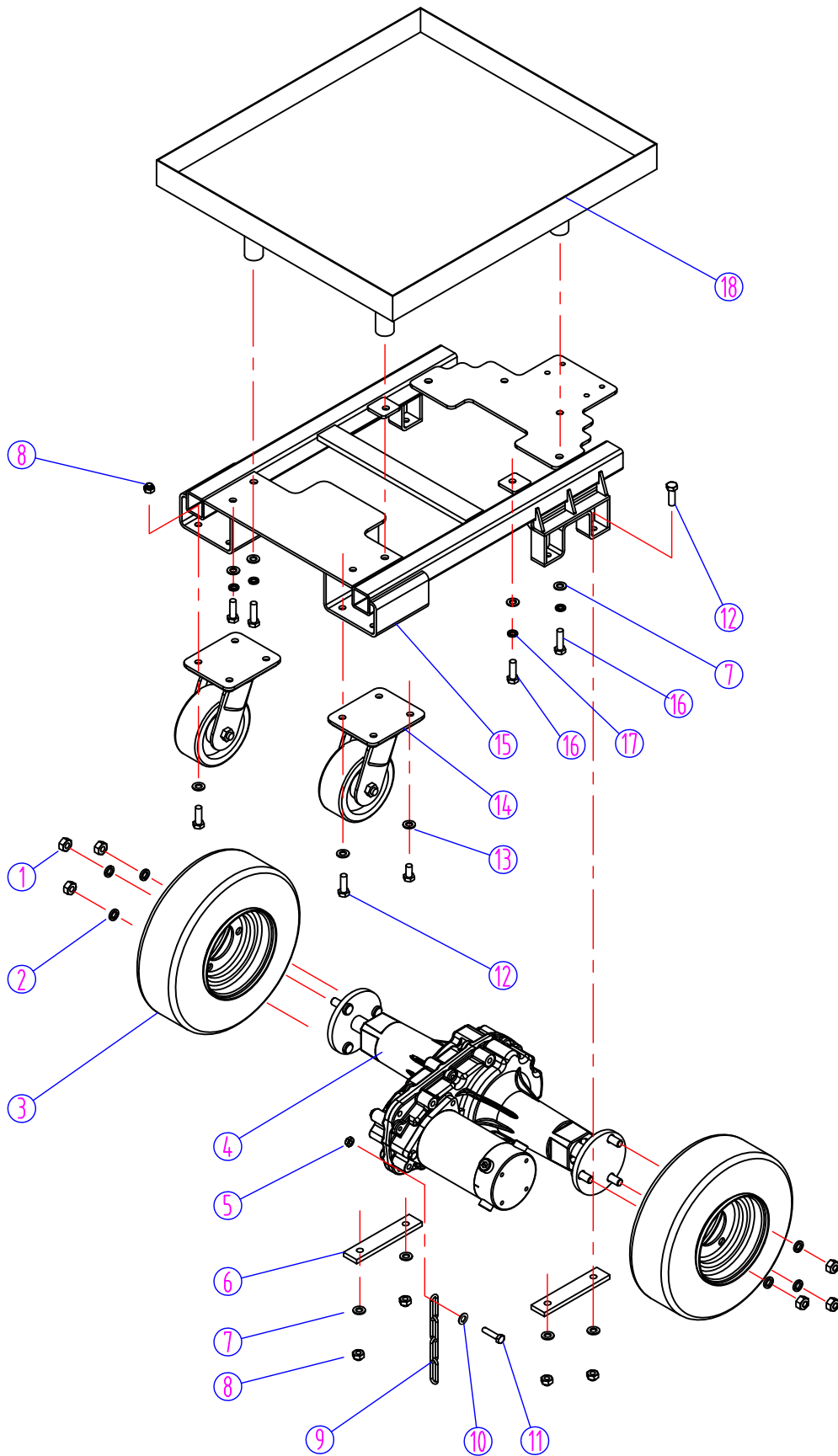
MACHINE STORAGE

1. Always store the machine indoors.
2. Always store the machine in a dry area.
3. Always store the machine with pads brushes removed.
4. Always store the machine with the squeegee assembly in up position.
5. If storing in an area which may reach freezing temperatures, be sure to drain all fluids from the machine prior to storage. Any damage caused by freezing temperatures will not be covered by the warranty. Remove VF80111 solution filter cover to drain all fluid form hoses.
6. Drain the recovery tank and remove the clear lid on the top of the recovery tank so that it can "breathe" during storage.
7. Drain the solution tank of all fluid.

BASIC TROUBLESHOOTING

| PROBLEM | CAUSE | SOLUTION |
|----------------------------|---|--|
| No power | Bad batteries | Replace batteries |
| | Key not in "ON" position | Turn key "ON" |
| | Main circuit breaker tripped | Contact Viper Distributor |
| | Batteries need to be charged | Charge batteries (see Battery Charging) |
| | Loose battery cable | Tighten loose cable(s) |
| | Batteries not connected properly | Follow battery installation instructions |
| Brush motor does not run | Bad brush switch | Contact Viper Distributor |
| | Brush circuit breaker has tripped | Check brush motor for obstructions and reset breaker |
| | Bad wiring | Contact Viper Distributor |
| | Bad brush motor | Contact Viper Distributor |
| | Carbon brushes worn out | Contact Viper Distributor |
| | Bad solenoid | Contact Viper Distributor |
| Vacuum motor does not run | Bad vacuum switch | Contact Viper Distributor |
| | Bad wiring | Contact Viper Distributor |
| | Bad vacuum motor | Contact Viper Distributor |
| | Carbon brushes worn out | Contact Viper Distributor |
| Short run time | Batteries need to be charged | Charge batteries (see Battery Charging) |
| | Batteries need maintenance | See Battery Maintenance in this manual |
| | Bad cell in battery(s) | Replace batteries |
| | Bad charger | Replace charger |
| Little or no solution flow | Bad solution switch | Contact Viper Distributor |
| | Clogged solution solenoid | Contact Viper Distributor |
| | Clogged solution filter | Remove filter and clean |
| | Solution line obstructed | Remove solution line and clean |
| | Solution flow adjustment knob in need of adjustment | Increase flow by twisting solution adjustment knob to the right. Decrease flow by twisting solution adjustment knob to the left. |
| Poor water pick up | Squeegee clogged | Clean debris off squeegee with damp towel |
| | Squeegee blades worn | Install new squeegee blades |
| | Squeegee not mounted correctly | Confirm that the squeegee assembly is securely fastened to the machine and not loose fitting. |
| | Vacuum hoses have a hole or are loose | Check hose connections and make sure they are firm. Replace hose if damaged. |
| | Vacuum hose may be clogged | Check hose for debris and remove any clog. |
| | Drain hose stopper is loose | Tighten drain plug. |
| | Batteries need to be charged | Charge batteries (see Battery Charging) |
| | Vacuum motor is loose | Tighten vac motor mounting screws. Do not overtighten or damage will occur. |
| | Recovery tank lid is loose | Confirm the clear recovery tank lid is securely in place. |
| | Recovery tank inlet hole is clogged | Drain recovery tank and tilt tank on side. Check the inlet hole for debris and remove debris. |
| | Recovery tank is full | Drain recovery tank. |
| | Float shut off is clogged | Remove float shut off from inside recovery tank and remove any debris. |

FANG 32T - MAIN FRAME AND DRIVE ASSEMBLY



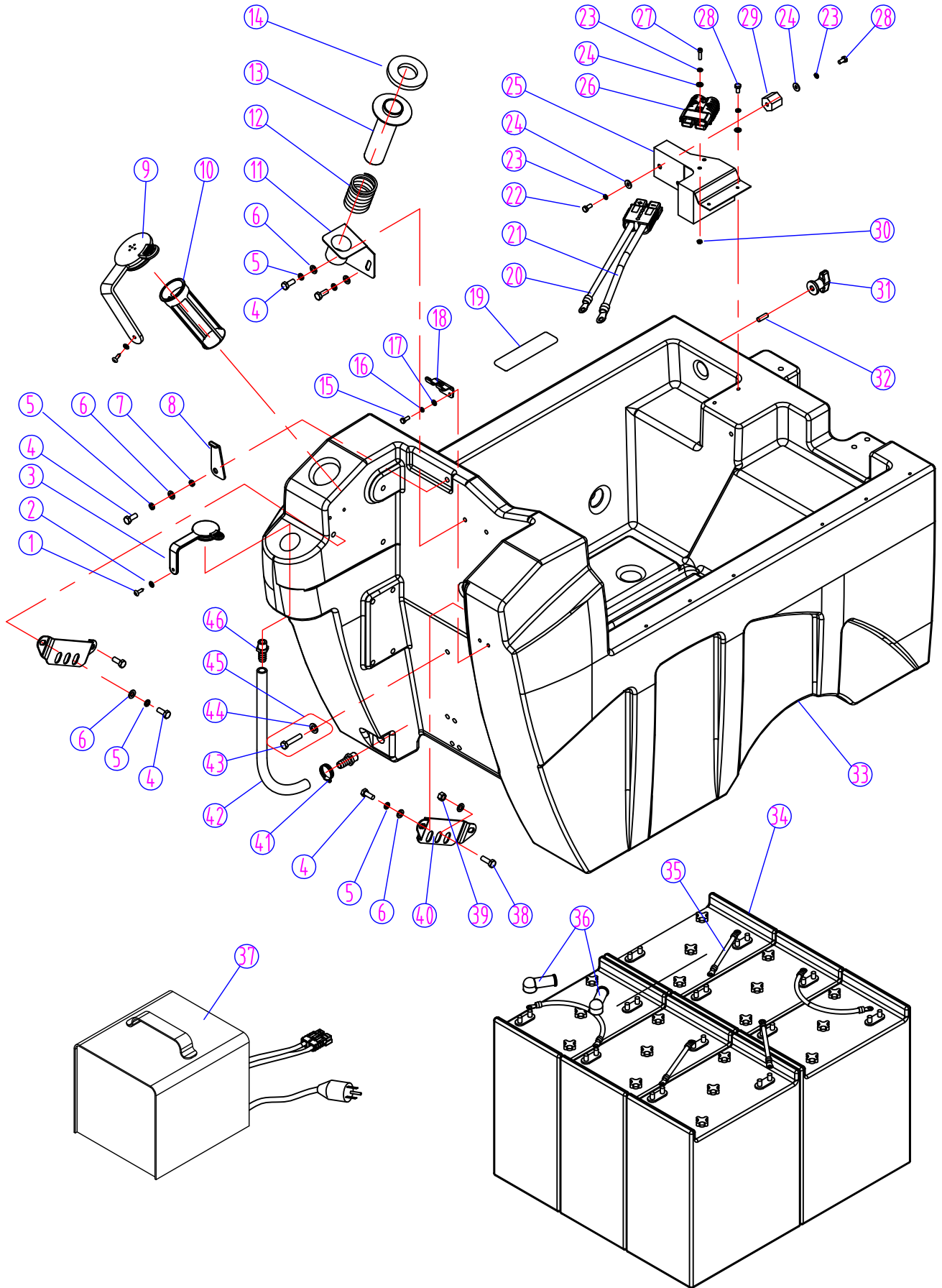
FANG 32T - MAIN FRAME AND DRIVE ASSEMBLY

| DIA NO | PART NUMBER | DESCRIPTION | NO REQ'D |
|--------|-------------|-------------------------------------|----------|
| 1 | VF13501A | NUT, M12 | 6 |
| 2 | VF13541 | WASHER, LOCK, M12 | 6 |
| 3 | VF84118 | TIRE, FOAM FILLED, BLACK (OPTIONAL) | 2 |
| | VF84119 | TIRE, BLACK (STANDARD) | 2 |
| 4 | VF84800 | TRANSAXLE, 32" | 1 |
| | ZD13000 | TRANSAXLE MOTOR, 36VDC | 1 |
| 5 | VF13503 | NUT, LOCK, M8 | 1 |
| 6 | VF84112 | PLATE, TRANSAXLE | 2 |
| 7 | VF13517 | WASHER, PLAIN, M10 X M26 X 2 | 14 |
| 8 | VF13504 | NUT, LOCK, M10 | 12 |
| 9 | VF84122 | CHAIN, STATIC | 1 |
| 10 | VF13535 | WASHER, PLAIN, M8 X M20 X 2 | 1 |
| 11 | VF14235 | SCREW, M8 X 35 | 1 |
| 12 | VF14123 | SCREW, M10 X 25 | 12 |
| 13 | VF13517 | WASHER, PLAIN, M10 X M20 X 2.5 | 8 |
| 14 | VF84117 | CASTER, 5" | 2 |
| 15 | VF84103 | FRAME | 1 |
| 16 | VF13634 | SCREW, M10 X 30 | 10 |
| 17 | VF13518 | WASHER, LOCK, M10 | 10 |
| 18 | VF84125 | BATTERY TRAY | 1 |

FANG 32T - SCRUB HEAD LIFT ASSEMBLY

| DIA NO | PART NUMBER | DESCRIPTION | NO REQ'D |
|-------------------|------------------------|------------------------------|---------------------|
| 1 | VF84316 | PIN, M16 X 30 | 2 |
| 2 | VF84317 | PIN, M13 X 51 | 1 |
| 3 | VF84309 | PIN, COTTER, M3 X 60.5 | 5 |
| 4 | VF84105 | ARM, LIFT, LEFT | 1 |
| 5 | VF13501 | NUT, LOCK, M12 | 2 |
| 6 | VF13538 | WASHER, PLAIN, M12 X M22 X 2 | 2 |
| 7 | VF84116 | BUSHING | 2 |
| 8 | VF13535 | WASHER, PLAIN, M8 X M20 X 2 | 7 |
| 9 | VF13519 | WASHER, LOCK, M8 | 7 |
| 10 | VV13604 | SCREW, M8 X 20 | 7 |
| 11 | VF84336 | BRACKET, BRUSH LIFT | 1 |
| 12 | VF84332 | ACTUATOR, 36VDC | 1 |
| 13 | VF84310 | BRACKET, ACTUATOR | 1 |
| 14 | VF84322 | PIN, M9.5 X 37 | 1 |
| 15 | VF14084 | PIN, COTTER, M3.2 X 24 | 1 |
| 16 | VF84337 | ADJUST NUT | 1 |
| 17 | VF84121 | ARM, LIFT, RIGHT | 1 |
| 18 | VF14057A | NUT, M12 | 1 |
| 19 | VF84338 | ADJUST SCREW | 1 |

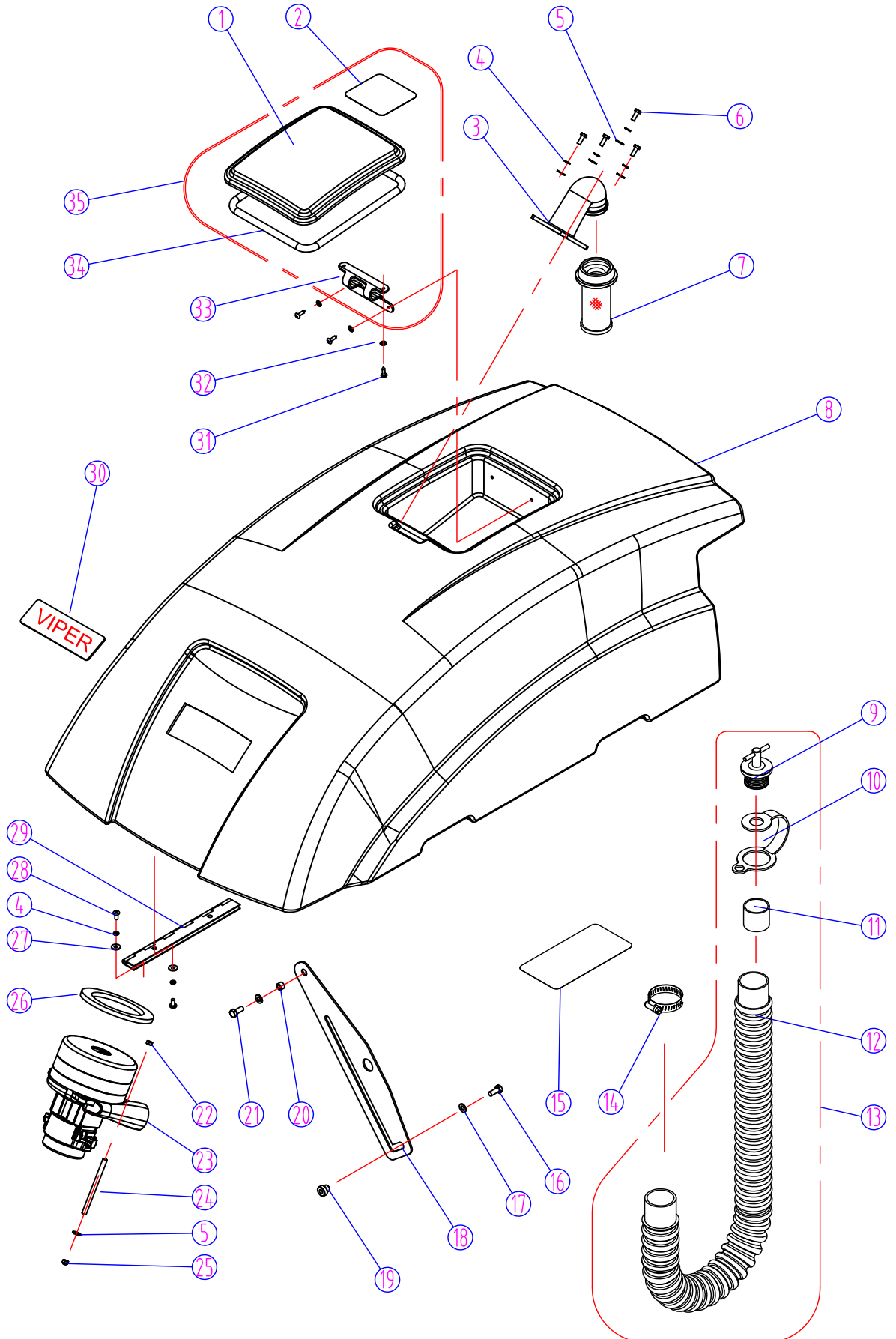
FAN32T - SOLUTION TANK ASSEMBLY



FANG 32T - SOLUTION TANK ASSEMBLY

| DIA NO | PART NUMBER | DESCRIPTION | NO REQ'D |
|---------------|--------------------|--|-----------------|
| 1 | VA13477 | SCREW, SELF-TAPPING, ST, M4 X 16 | 4 |
| 2 | VV13664 | WASHER, PLAIN, M4 X M12 X 1 | 2 |
| 3 | VF82154 | EXPANSION PLUG | 1 |
| 4 | VV13604 | SCREW, M8 X 20 | 8 |
| 5 | VF13519 | WASHER, LOCK, M8 | 8 |
| 6 | VF13535 | WASHER, PLAIN, M8 X M20 X 2 | 8 |
| 7 | VF81406 | BUSHING | 1 |
| 8 | VF81404 | SUPPORT, RECOVERY TANK | 1 |
| 9 | VF46454 | FILTER, INTAKE TANK | 1 |
| 10 | VF84340 | PLUG, EXPANSION | 1 |
| 11 | VF82029A | BRACKET, VAC TUBE | 1 |
| 12 | VF82032 | SPRING | 1 |
| 13 | VF82030 | ADAPTER, TUBE | 1 |
| 14 | VF82031A | GASKET, TUBE ADAPTER | 1 |
| 15 | VF14230 | SCREW, M5 X 16 | 2 |
| 16 | VV13601 | WASHER, LOCK, M5 | 2 |
| 17 | VF13532 | WASHER, PLAIN, M5 X M11 X 2 | 2 |
| 18 | VF84140 | BRACKET, DRAIN HOSE | 1 |
| 19 | VF82123 | DECAL | 1 |
| 20 | VF84135 | WIRE, #4 X 600, RED | 1 |
| 21 | VF84148 | WIRE, #4 X 600, BLACK | 1 |
| 22 | VF14232 | SCREW, M6 X 10 | 2 |
| 23 | VV13607 | WASHER, LOCK, M6 | 8 |
| 24 | GT13032 | WASHER, PLAIN, M6 X M16 X 1.5 | 8 |
| 25 | VF84109 | BRACKET | 1 |
| 26 | VF81306G | CONNECTOR, GREY, 175A | 2 |
| 27 | VF13633 | SCREW, M6 X 35 | 2 |
| 28 | VF13495 | SCREW, M6 X 16 | 4 |
| 29 | VF81715 | STANDOFF | 2 |
| 30 | VF13502 | NUT, LOCK, M6 | 2 |
| 31 | VA85003 | KNOB, M8 | 4 |
| 32 | VF84111 | SCREW, M8 X 35 | 4 |
| 33 | VF84101 | SOLUTION TANK | 1 |
| 34 | VF84127 | BATTERY, 6V, 305AMP HOUR | 6 |
| 35 | VF84132 | CABLE, BATTERY | 5 |
| 36 | VF81724 | CAP, BATTERY, BLACK | 2 |
| | VF81724R | CAP, BATTERY, RED | 2 |
| 37 | VF84128 | CHARGER, 36V, 30AMP | 1 |
| 38 | VF14234 | SCREW, M8 X 16 | 2 |
| 39 | VF13513 | NUT, M8 | 2 |
| 40 | VF81408 | PLATE, LOCK | 2 |
| 41 | VF82090 | CLAMP (16-25) | 1 |
| 42 | VF83138 | TUBING | 1 |
| 43 | VF14248 | SCREW, M8 X 100, OPTIONAL | 1 |
| 44 | VA13516 | WASHER, PLAIN, M10 X M30 X 1.5, OPTIONAL | 1 |
| 45 | VF84224 | PU BLADES & FASTEN KIT, OPTIONAL | 1 |
| 46 | VF84137 | HOSE BARB, G 1/2 | 2 |

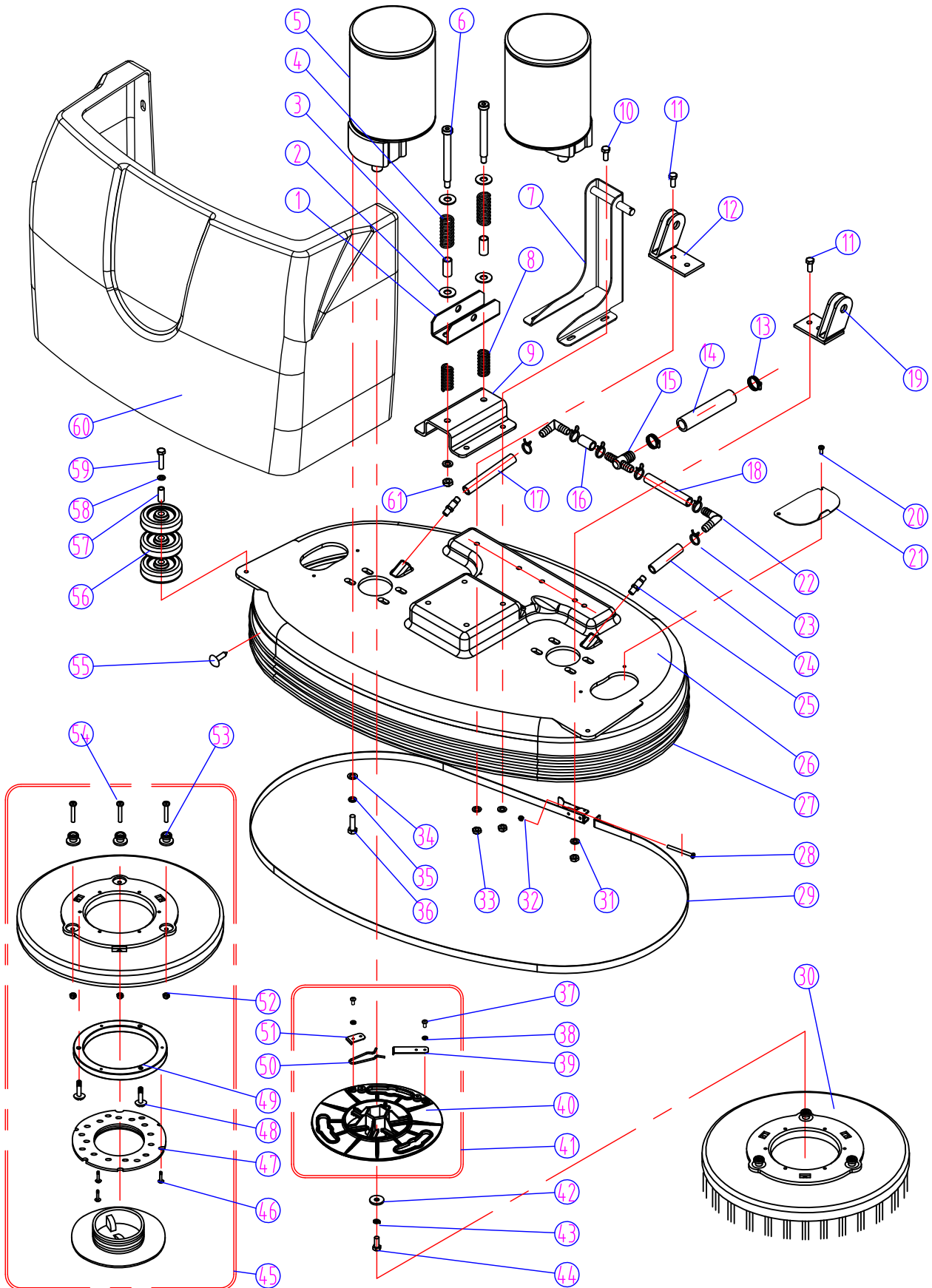
FANG 32T - RECOVERY TANK ASSEMBLY



FANG 32T - RECOVERY TANK ASSEMBLY

| DIA NO | PART NUMBER | DESCRIPTION | NO REQ'D |
|--------|-------------|----------------------------------|----------|
| 1 | VF82010 | CLEAR COVER, RECOVERY TANK | 1 |
| 2 | VF82083 | DECAL, BATTERY WARNING | 1 |
| 3 | VF82009 | ELBOW ADAPTOR, FLOAT | 1 |
| 4 | VV13607 | WASHER, LOCK, M6 | 14 |
| 5 | VF13533 | WASHER, PLAIN, M6 X M16 X 2 | 7 |
| 6 | VF14233 | SCREW, M6 X 20 | 4 |
| 7 | VF81504 | FLOAT | 1 |
| 8 | VF84102 | RECOVERY TANK (32") | 1 |
| 9 | VF81509 | EXPANSION PLUG | 1 |
| 10 | VF81510-9 | STRAP, DRAIN HOSE | 1 |
| 11 | VF81510-2 | SLEEVE, DRAIN HOSE | 1 |
| 12 | VF81510-1 | DRAIN HOSE | 1 |
| 13 | VF81510A | DRAIN HOSE ASSEMBLY | 1 |
| 14 | VV10113 | CLAMP, 2" | 2 |
| 15 | VF84124 | DECAL, BATTERY INSTALLATION | 1 |
| 16 | VF14235 | SCREW, M8 X 35 | 1 |
| 17 | VF13535 | WASHER, PLAIN, M8 X M20 X 2 | 2 |
| 18 | VF84107 | BRACKET, DROP ARM | 1 |
| 19 | VF84133 | BUSHING | 1 |
| 20 | VF84216 | BUSHING | 1 |
| 21 | VA13491 | SCREW, M8 X 25 | 1 |
| 22 | VF13521 | NUT, M6 | 3 |
| 23 | ZD60000 | MOTOR, VACUUM, 3 STAGE, 36VDC | 1 |
| 24 | VF81508 | STUD (24") | 3 |
| 25 | VF13502 | NUT, LOCK, M6 | 3 |
| 26 | VF81503 | SEAT | 1 |
| 27 | GT13032 | WASHER, PLAIN, M6 X M16 X 1.5 | 10 |
| 28 | VF14200 | SCREW, M6 X 16 | 10 |
| 29 | VF84113 | HINGE, RECOVERY TANK | 2 |
| 30 | VF83143 | LOGO (32") | 1 |
| 31 | VA13477 | SCREW, SELF-TAPPING, ST, M4 X 16 | 4 |
| 32 | VV13664 | WASHER, PLAIN, M4 X M12 X 1 | 4 |
| 33 | VF82010A | RUBBER HINGE | 1 |
| 34 | VF82010B | GASKET | 1 |
| 35 | VF82010-X | KIT, LID | 1 |

FANG 32T - SCRUB HEAD ASSEMBLY



FANG 32T - SCRUB HEAD ASSEMBLY

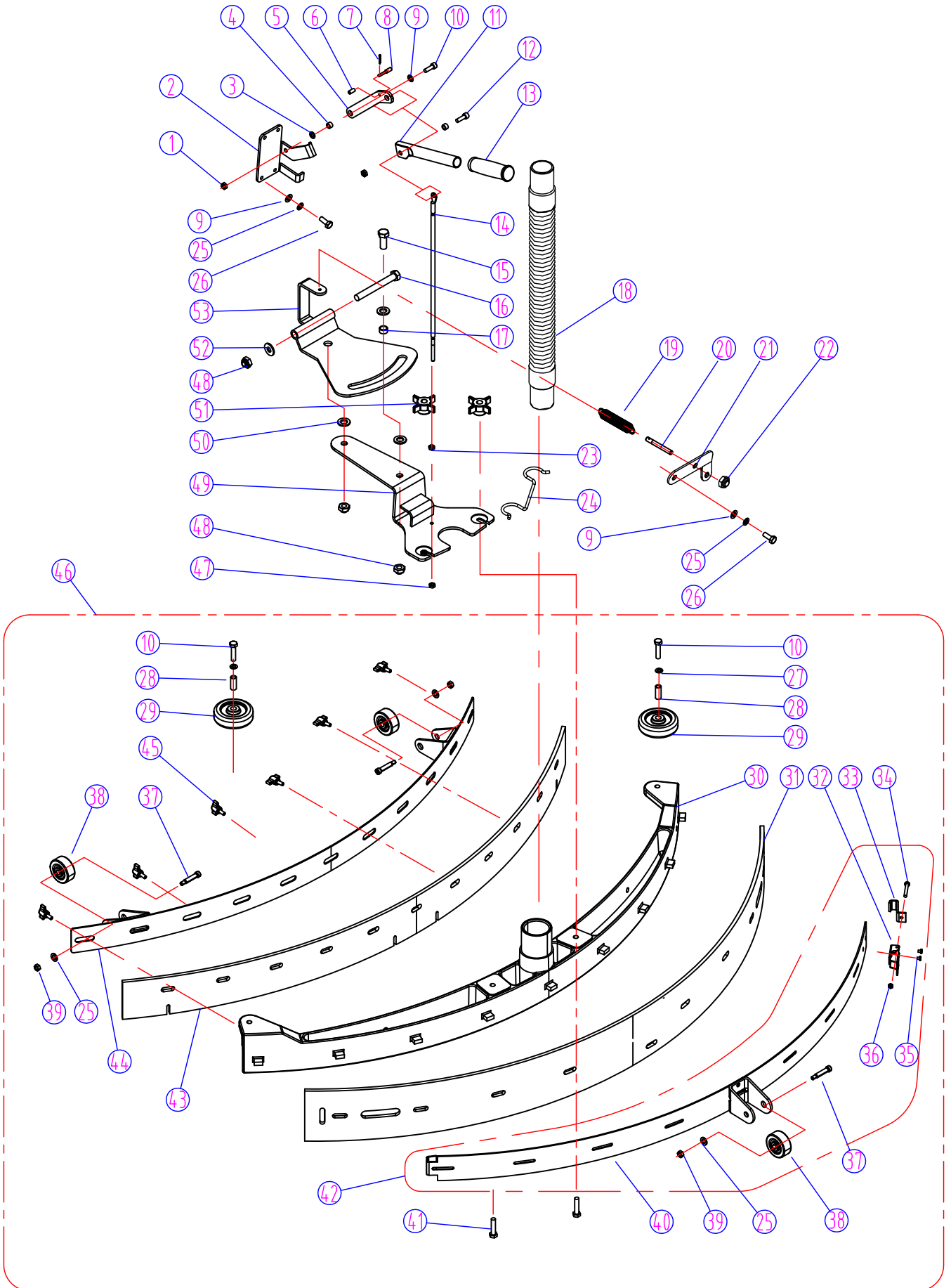
| DIA NO | PART NUMBER | DESCRIPTION | NO REQ'D |
|--------|-------------|-------------------------------------|----------|
| 1 | VF84315 | BRACKET, SPRING | 1 |
| 2 | VF13615 | WASHER, PLAIN, M13 X M30 X 2 | 4 |
| 3 | VF84312 | SLEEVE | 2 |
| 4 | VF84313 | SPRING | 2 |
| 5 | ZD11000 | BRUSH, MOTOR, 36VDC, 1HP | 2 |
| | ZD45407 | KEY, 6.35 X 25 | 2 |
| 6 | VF84311 | BOLT, SHOULDER, 1/4" X 4.25" X 3/8" | 2 |
| 7 | VF84335 | BRACKET, BRUSH LIFT | 1 |
| 8 | VF84314 | SPRING | 2 |
| 9 | VF84304 | BRACKET, SPRING MOUNT | 1 |
| 10 | VF14235 | SCREW, M8 X 35 | 4 |
| 11 | VA13491 | SCREW, M8 X 25 | 5 |
| 12 | VF84305A | BRACKET, LIFT, RIGHT | 1 |
| 13 | VF82090 | CLAMP, (16-25) | 2 |
| 14 | VF84333 | TUBING, 17.5mm ID, 145mm | 1 |
| 15 | VF84141 | HOSE BARB, TEE | 1 |
| 16 | VF84334 | TUBING, 11.5mm ID, 135mm | 1 |
| 17 | VF84345 | TUBING, 11.5mm ID, 125mm | 1 |
| 18 | VF84346 | TUBING, 11.5mm ID, 275mm | 1 |
| 19 | VF84303 | BRACKET, LIFT, LEFT | 1 |
| 20 | VV20509 | SCREW, M5 X 10 | 4 |
| 21 | VF84325 | DOOR, SCRUB HEAD | 2 |
| 22 | VF82042 | ELBOW | 2 |
| 23 | VF82148 | CLAMP, 16mm | 6 |
| 24 | VF82138 | TUBING, 11.5mm ID, 75mm | 1 |
| 25 | VF84146 | HOSE BARB | 2 |
| 26 | VF84302 | COVER, SCRUB HEAD | 1 |
| 27 | VF84323 | SKIRT, SCRUB HEAD | 1 |
| 28 | VF14310 | SCREW, M5 X 70 | 1 |
| 29 | VF84324 | CLAMP, SKIRT | 1 |
| 30 | VF84330 | BRUSH, 15 INCH | 2 |
| 31 | VF13542 | WASHER, PLAIN, M8 X M20 X 2 | 9 |
| 32 | GT13022 | NUT, LOCK, M5 | 1 |
| 33 | VF13503 | NUT, LOCK, M8 | 8 |
| 34 | VF13537 | WASHER, PLAIN, M10 X M26 X 2 | 8 |
| 35 | VV13620 | WASHER, LOCK, 3/8" | 8 |
| 36 | VF14242 | SCREW, 3/8"-1" | 10 |
| 37 | VF13545 | SCREW, SELF-TAPPING, ST, M5 X 10 | 8 |
| 38 | VV13601 | WASHER, LOCK, M5 | 8 |
| 39 | VF83134 | STOP, DRIVE RELEASE | 2 |
| 40 | VF83130 | PLATE, DRIVE | 2 |
| 41 | VF83130A | PLATE, DRIVE, ASSY | 1 |
| 42 | VF82058 | WASHER | 2 |
| 43 | VV20298 | WASHER, LOCK, 5/16" | 2 |

FANG 32T - SCRUB HEAD ASSEMBLY

| DIA NO | PART NUMBER | DESCRIPTION | NO REQ'D |
|--------|-------------|----------------------------------|----------|
| 44 | VF14241 | SCREW, 5/16" - 1" | 2 |
| 45 | VF84329 | PAD DRIVE, 15 INCH | 2 |
| 46 | VA13484 | SCREW, SELF-TAPPING, ST, M4 X 12 | 6 |
| 47 | VF99003A | BIG MOUTH | 2 |
| 48 | MF-VF002-4A | SCREW, SELF-TAPPING, 1/4" - 1" | 6 |
| 49 | VF83118 | SPACER | 2 |
| 50 | VF83132 | SPRING | 2 |
| 51 | VF83131 | CLAMP, BRUSH PLATE | 2 |
| 52 | VF13502 | NUT, LOCK, M6 | 6 |
| 53 | VF83133 | STUD | 6 |
| 54 | VF14225A | SCREW, M6 X 40 | 6 |
| 55 | VF84134 | PUSH SCREW | 7 |
| 56 | VF82013 | WHEEL, 3" | 6 |
| 57 | VF82055 | BUSHING | 6 |
| 58 | VF13514A | WASHER, PLAIN, M8 X M16.5 X 1 | 6 |
| 59 | VF14248 | SCREW, M8 X 100 | 2 |
| 60 | VF84104 | COVER, FRONT | 1 |
| 61 | VF84326 | NUT, LOCK, 3/8" | 2 |

PARTS LIST

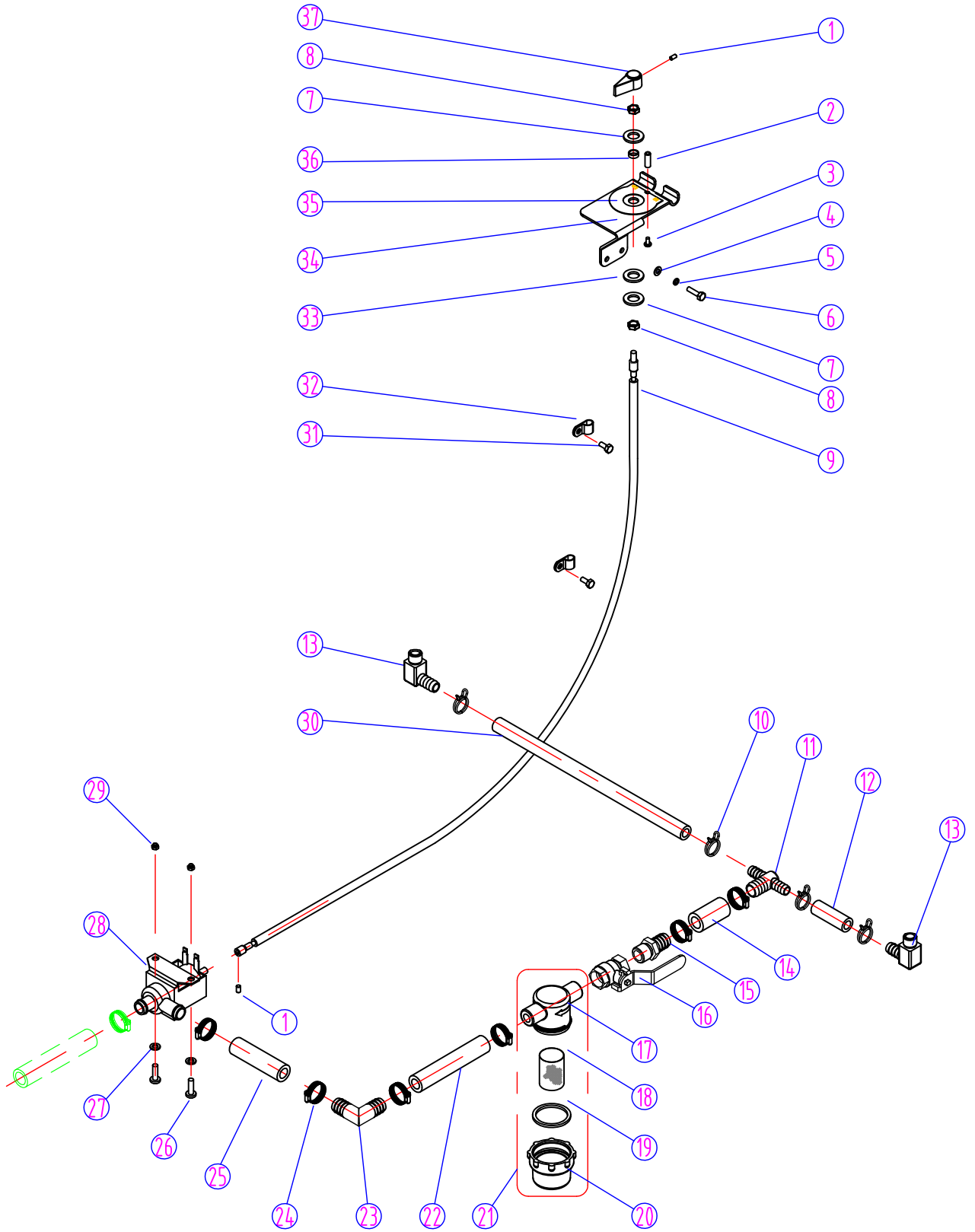
FANG 32T - SQUEEGEE AND SQUEEGEE LIFT ASSEMBLY



FANG 32T - SQUEEGEE AND SQUEEGEE LIFT ASSEMBLY

| DIA NO | PART NUMBER | DESCRIPTION | NO REQ'D |
|--------|-------------|--|----------|
| 1 | VF13503 | NUT, LOCK, M8 | 2 |
| 2 | VF84220 | BRACKET, SQUEEGEE LIFT | 1 |
| 3 | VF13514 | WASHER, PLAIN, M8 X M16.5 X 1.5 | 1 |
| 4 | VF84222 | BUSHING | 2 |
| 5 | VF84218 | ARM, SQUEEGEE LIFT | 1 |
| 6 | VF82159 | BUSHING | 1 |
| 7 | VF14096 | PIN, M2 X 20 | 1 |
| 8 | VF82158 | SHAFT | 1 |
| 9 | VF13535 | WASHER, PLAIN, M8 X M20 X 2 | 6 |
| 10 | VF14235 | SCREW, M8 X 35 | 1 |
| 11 | VF84217 | HANDLE, LIFT | 1 |
| 12 | VA13491 | SCREW, M8 X 25 | 1 |
| 13 | VF48310 | GRIP, HANDLE | 1 |
| 14 | VF84219 | CABLE, SQGEEGEE, LIFT (32") | 1 |
| 15 | VF14238 | SCREW, M12 X 30 | 2 |
| 16 | VF13637 | SCREW, M12 X 130 | 1 |
| 17 | VF82016A | BUSHING | 2 |
| 18 | VF84223 | HOSE | 1 |
| 19 | VF83144 | SPRING | 1 |
| 20 | VF82047 | SHAFT | 1 |
| 21 | VF83125 | BRACKET, SPRING | 1 |
| 22 | VF13513 | NUT, M8 | 1 |
| 23 | VF13521 | NUT, M6 | 1 |
| 24 | VF83150 | HOLDER,"U" HOSE | 1 |
| 25 | VF13519 | WASHER, LOCK, M8 | 4 |
| 26 | VV13604 | SCREW, M8 X 20 | 4 |
| 27 | VF13514A | WASHER, PLAIN, M8 X M16.5 X 1 | 2 |
| 28 | VF82055 | BUSHING | 2 |
| 29 | VF82013 | WHEEL, 3" | 2 |
| 30 | VF84202 | HOUSING, SQUEEGEE (FANG 32T) | 1 |
| 31 | VF84208 | BLADE, SQUEEGEE, REAR, PU (FANG 32T) | 1 |
| 32 | VF81218 | LATCH, HOOD | 1 |
| 33 | VF81209 | HOOK, REAR SQUEEGEE BACKUP ADJUSTMENT | 1 |
| 34 | VF14310 | SCREW, M5 X 70 | 1 |
| 35 | VF81208 | RIVET, M4 X 5 | 2 |
| 36 | GT13022 | NUT, LOCK, M5 | 1 |
| 37 | VF81222 | BOLT, SHOULDER, 5/16" X 1.25" | 3 |
| 38 | VF81219 | WHEEL, 2" | 3 |
| 39 | VV20203 | NUT, LOCK, 5/16" | 3 |
| 40 | VF84206 | BACKUP STRIP, SQUEEGEE, REAR (FANG 32T) | 1 |
| 41 | VF14236 | SCREW, M8 X 40 | 2 |
| 42 | VF84206A | KIT, BACKUP STRIP, SQUEEGEE | 1 |
| 43 | VF84207 | BLADE, SQUEEGEE, FRONT, PU (FANG 32T) | 1 |
| 44 | VF84205 | BACKUP STRIP, SQUEEGEE, FRONT (FANG 32T) | 1 |
| 45 | VF82121 | KNOB, M6 | 6 |
| 46 | VF84200 | SQUEEGEE ASSEMBY (FANG 32T) | 1 |
| 47 | VF13502 | NUT, LOCK, M6 | 1 |
| 48 | VF13501 | NUT, LOCK, M12 | 3 |
| 49 | VF84204 | BRACKET, SQUEEGEE, MOUNT | 1 |
| 50 | VF13539 | WASHER, PLAIN, M12 X M32 X 2 | 4 |
| 51 | VF81210 | KNOB, M8 | 2 |
| 52 | VF13538 | WASHER, PLAIN, M12 X M26 X 2 | 1 |
| 53 | VF84214 | MOUNT, PIVOT | 1 |

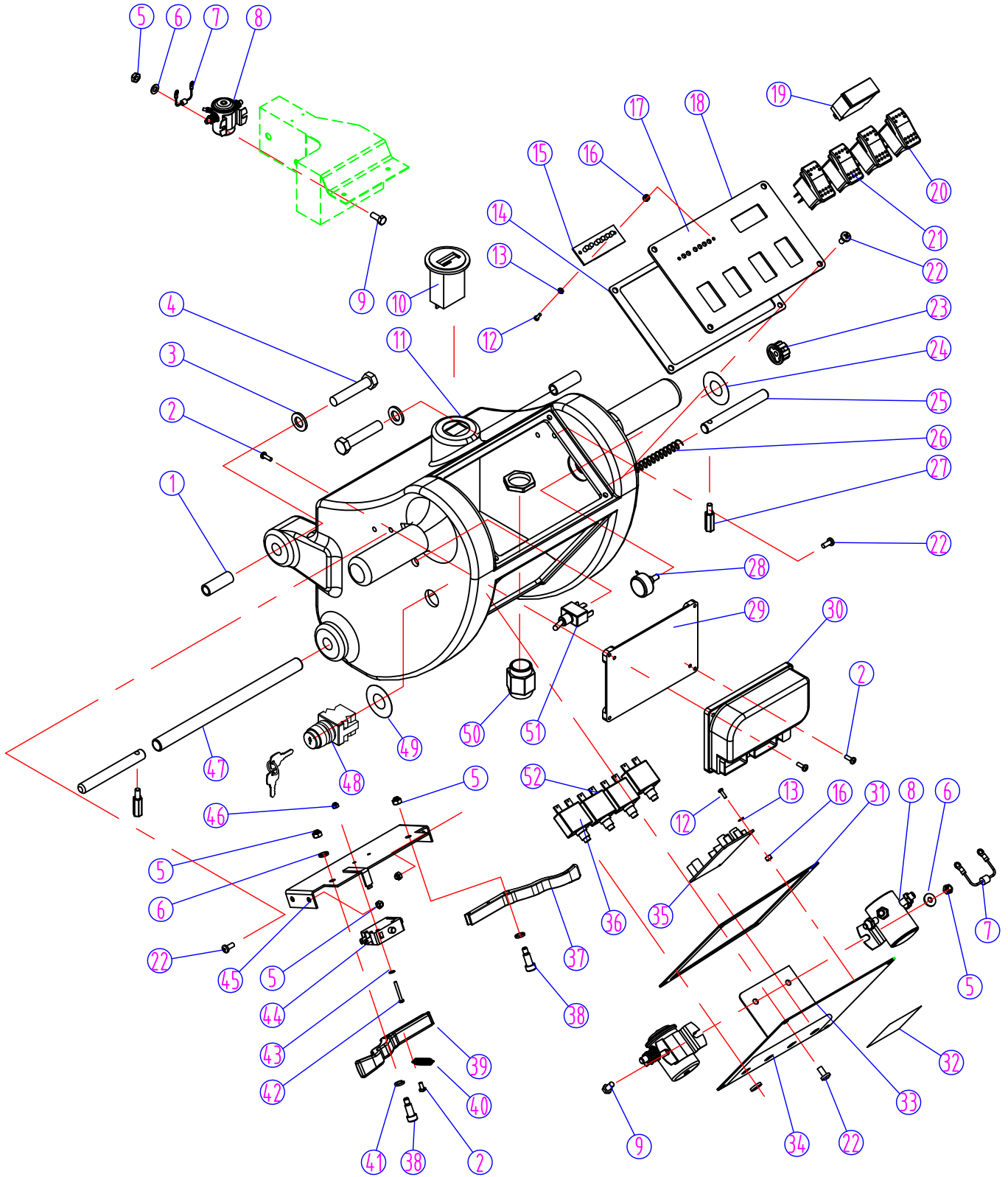
FANG 32T - SOLUTION CONTROL ASSEMBLY



FANG 32T - SOLUTION CONTROL ASSEMBLY

| DIA NO | PART NUMBER | DESCRIPTION | NO REQ'D |
|--------|-------------|--------------------------------|----------|
| 1 | VF14245 | SCREW, M5 X 6 | 2 |
| 2 | VF82036 | SHAFT | 1 |
| 3 | VV13650 | SCREW, M4 X 10 | 1 |
| 4 | VF13532 | WASHER, PLAIN, M5 | 2 |
| 5 | VV13601 | WASHER, LOCK, M5 | 2 |
| 6 | VF14230 | SCREW, M5 X 15 | 2 |
| 7 | VF13536 | WASHER, PLAIN, M9.8 X M16 X 1 | 2 |
| 8 | VF82075 | NUT, 3/8" | 2 |
| 9 | VF84123 | CABLE, SOLENOID | 1 |
| 10 | VF82148 | CLAMP, 16mm | 4 |
| 11 | VF84141 | HOSE BARB, TEE | 1 |
| 12 | VF84333 | TUBING, 11.5mm ID, 125mm | 1 |
| 13 | VF81403A | ELBOW, SOLUTION TANK | 2 |
| 14 | VF84341 | TUBING, 17.5mm ID, 50mm | 1 |
| 15 | VF84142 | CONNECTOR, NPT 1/2" | 1 |
| 16 | VF84144 | BALL VALVE, 15mm DN, NPT 1/2" | 1 |
| 17 | VF82168-3 | SEAT, FILTER | 1 |
| 18 | VF82168-4 | SCREEN, 80SS, FILTER | 1 |
| 19 | VF82168-5 | GASKET, FILTER | 1 |
| 20 | VF82168-2 | COVER, FILTER | 1 |
| 21 | VF82168 | FILTER, ASSY | 1 |
| 22 | VF84347 | TUBING, 17.5mm ID, 185mm | 1 |
| 23 | VF84143 | ELBOW | 1 |
| 24 | VF82090 | CLAMP | 6 |
| 25 | VF84342 | TUBING, 17.5mm ID, 150mm | 1 |
| 26 | VF13495 | SCREW, M6 X 16 | 2 |
| 27 | VF13533 | WASHER, PLAIN, M6 X M16 X 2 | 2 |
| 28 | VF84120A | SOLUTION VALVE SOLENOID, 36VDC | 1 |
| 29 | VF13502 | NUT, LOCK, M6 | 2 |
| 30 | VF84348 | TUBING, 17.5mm ID, 350mm | 1 |
| 31 | VV20509 | SCREW, M5 X 10 | 2 |
| 32 | VF81118 | CLAMP | 2 |
| 33 | VF13540 | WASHER, WAVE, M12 | 1 |
| 34 | VF82037 | BRACKET, DRAIN HOSE & VALVE | 1 |
| 35 | VF82069 | LABEL, VALVE | 1 |
| 36 | VF82074 | BUSHING | 1 |
| 37 | VF82038 | KNOB, VALVE ADJUST | 1 |

FANG 32T - CONTROL HOUSING



FANG 32T - CONTROL HOUSING

| DIA NO | PART NUMBER | DESCRIPTION | NO REQ'D |
|--------|-------------|---------------------------------|----------|
| 1 | VF84703 | BUSHING | 2 |
| 2 | VF13491 | SCREW, M4 X 12 | 7 |
| 3 | VF14122 | WASHER, PLAIN, M10 X M20 X 2 | 2 |
| 4 | VF14121 | SCREW, M10 X 65 | 2 |
| 5 | VF13502 | NUT, LOCK, M6 | 10 |
| 6 | GT13032 | WASHER, PLAIN, M6 | 6 |
| 7 | VF81781 | DIODE, 400V | 3 |
| 8 | VF84716A | SOLENOID, 36V | 3 |
| 9 | VF13495 | SCREW, M6 X 16 | 12 |
| 10 | VF84145 | TIMER | 1 |
| 11 | VF84701 | HOUSING, CONTROL | 1 |
| 12 | VF14078 | SCREW, M3 X 10 | 6 |
| 13 | VA50477 | WASHER, PLAIN, M3 X M10 X 1 | 6 |
| 14 | VF84711 | GASKET | 1 |
| 15 | VF84717 | LIGHTS, BATTERY CAPACITY | 1 |
| 16 | VF81719 | SPACER | 6 |
| 17 | VF84702 | LABEL, SWITCH (FANG 32T) | 1 |
| 18 | VF84704 | PANEL, SWITCH (32") | 1 |
| 19 | VF81727 | GAUGE, BRUSH PRESSURE | 1 |
| 20 | VF81725 | SWITCH, BRUSH LIFT | 1 |
| 21 | VF84722 | SWITCH, LIGHTED ROCKER | 3 |
| 22 | VF14200 | SCREW, M6 X 16 | 12 |
| 23 | VF81730 | KNOB, SPEED CONTROL | 1 |
| 24 | VF82305 | LABEL, SPEED CONTROL | 1 |
| 25 | VF84710 | PIN, HANDLE LOCK | 2 |
| 26 | VF81716 | SPRING | 1 |
| 27 | VF81710 | PIN, HANDLE ADJUSTMENT | 2 |
| 28 | VF81729 | POTENTIOMETER, 4.7K | 1 |
| 29 | VF84718 | PLATE | 1 |
| 30 | VF84719 | BOARD, SPEED CONTROL | 1 |
| 31 | VF84712 | LABEL, CIRCUIT BREAKER | 1 |
| 32 | VF84713 | SERIAL TAG | 1 |
| 33 | VF84705 | PANEL, CONTROL HOUSING | 1 |
| 34 | VF84715 | LABEL, CIRCUIT BREAKER | 1 |
| 35 | VF84723 | CONTROL BOARD, BATTERY CAPACITY | 1 |
| 36 | VF99012 | BREAKER, CIRCUIT, 12 AMP | 1 |
| 37 | VF84708 | HANDLE, RIGHT | 1 |
| 38 | VF81711 | BOLT, SHOULDER, M8 X 15 X M6 | 2 |
| 39 | VF84707 | HANDLE, LEFT | 1 |
| 40 | VF81712 | SPRING | 1 |
| 41 | VF13514A | WASHER, PLAIN, M8 X M16.5 X 1 | 2 |
| 42 | VF14212 | SCREW, M3 X 25 | 2 |
| 43 | VF13511 | WASHER, TOOTH, M3 | 2 |
| 44 | VF44203 | SWITCH ASSEMBLY | 1 |
| 45 | VF84706 | BRACKET, SWITCH (32") | 1 |
| 46 | VV13652 | NUT, LOCK, M3 | 2 |
| 47 | VF84709 | TUBE, HANDLE, ADJUSTMENT | 1 |
| 48 | VF82153 | KEY SWITCH | 1 |
| 49 | VF82160 | LABEL, KEY SWITCH | 1 |
| 50 | VF84721 | CORD STRAIN RELIEF | 1 |
| 51 | VF81722 | SWITCH, TOGGLE | 1 |
| 52 | VF81734 | BREAKER, CIRCUIT, 35 AMP | 3 |

FANG32T WIRING DIAGRAM

BATTERY CAPACITY LIGHTS

