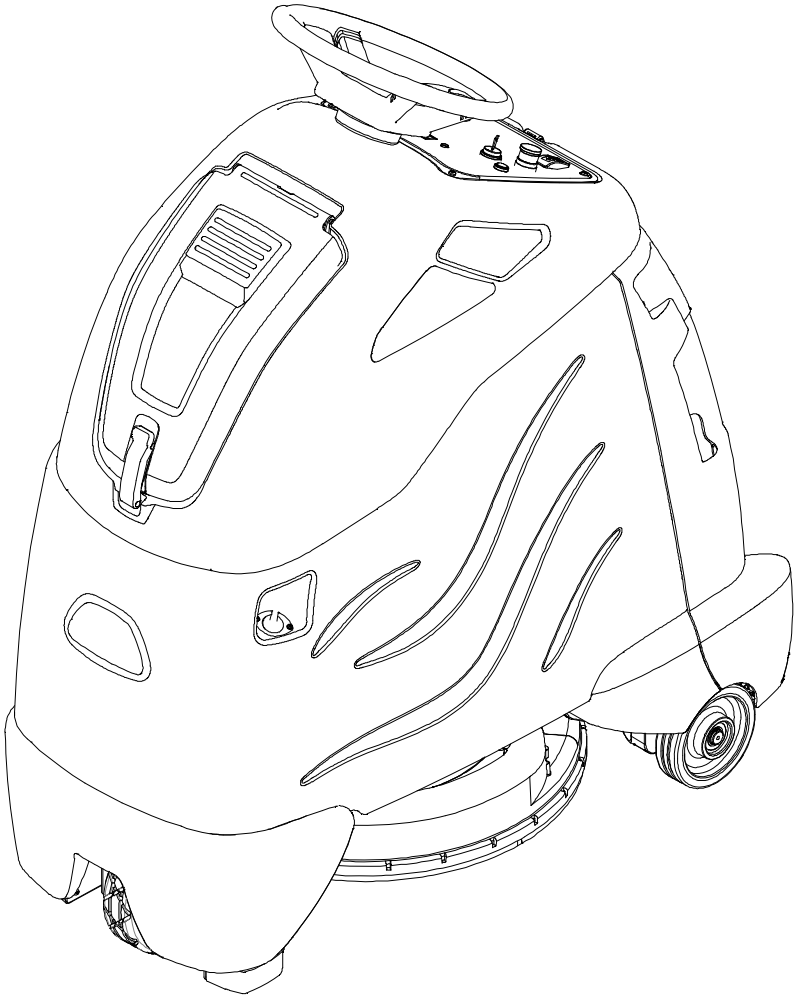
Chariot 2 iGloss 20

WINDSOR
Kärcher Group

Burnisher



Operating Instructions (ENG)

MODELS: ***CBPS20***
1.002-031.0

CBPSC20
1.002-032.0

CBPL20
1.002-033.0

CBPLC20
1.002-034.0

CBAL20
1.002-035.0

CBALC20
1.002-036.0

From Serial Number (Ref No. 1*)
*** See Serial Number page in Spare Parts List or call manufacturer.**

86398800-B 04/16/16

Model: _____

Date of Purchase: _____

Serial Number: _____

Dealer: _____

Address: _____

Phone Number: _____

Sales Representative: _____

Overview

The Chariot iGloss 20 is a battery powered, ride-on, hard floor burnisher intended for commercial use. This machine applies a high luster to hard floor surfaces.

Warranty Registration

Thank you for purchasing a Kärcher North America product. Warranty registration is quick and easy. Your registration will allow us to serve you better over the lifetime of the product.

To register your product go to :
http://warranty.karcherna.com/
For customer assistance:
1-800-444-7654

WINDSOR
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This manual contains the following sections:

- HOW TO USE THIS MANUAL
- SAFETY
- OPERATIONS
- MAINTENANCE
- PARTS LIST

The HOW TO USE THIS MANUAL section will tell you how to find important information for ordering correct repair parts.

Parts may be ordered from authorized Kärcher North America dealers. When placing an order for parts, the machine model and machine serial number are important. Refer to the MACHINE DATA box which is filled out during the installation of your machine. The MACHINE DATA box is located on the inside of the front cover of this manual.

Model: _____

Date of Purchase: _____

Serial Number: _____

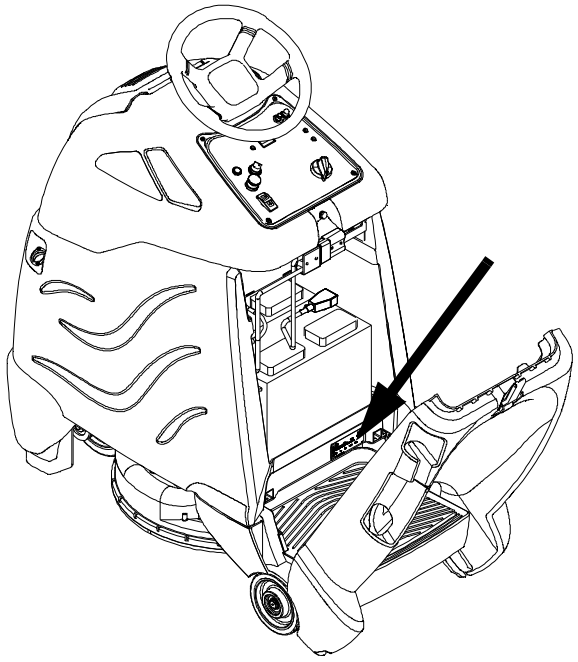
Dealer: _____

Address: _____

Phone Number: _____

Sales Representative: _____

The model and serial number of your machine are located below the battery compartment of the machine.



The SAFETY section contains important information regarding hazard or unsafe practices of the machine. Levels of hazards are identified that could

result in product or personal injury, or severe injury resulting in death.

The OPERATIONS section is to familiarize the operator with the operation and function of the machine.

The MAINTENANCE section contains preventive maintenance to keep the machine and its components in good working condition. They are listed in this general order:

- Batteries
- Brush Deck
- Circuit Protection
- Drive Motor and Brake
- Service Schedule
- Vacuum Motor
- Machine Troubleshooting

The number on the lower right corner of the front cover is the part number for this manual.

IMPORTANT SAFETY INSTRUCTIONS

When using an electrical appliance, basic precaution must always be followed, including the following:

READ ALL INSTRUCTIONS BEFORE USING THIS MACHINE.

⚠WARNING: To reduce the risk of fire, electric shock, or injury:

Use only indoors. Do not use outdoors or expose to rain.

Use only as described in this manual. Use only manufacturer's recommended components and attachments.

If the machine is not working properly, has been dropped, damaged, left outdoors, or dropped into water, return it to an authorized service center.

Do not operate the machine with any openings blocked. Keep openings free of debris that may reduce airflow.

This machine is not suitable for picking up hazardous dust.

Do not operate this machine near flammable fluids, dust or vapors.

Maintenance and repairs must be done by qualified personnel.

Disconnect battery before cleaning or servicing.

Before the machine is discarded, the batteries must be removed and properly disposed of.

Make sure all warning and caution labels are legible and properly attached to the machine.

During operation, attention shall be paid to other persons, especially children.

Before use all covers and doors shall be put in the positions specified in the instructions.

When leaving unattended, secure against unintentional movement.

The machine shall only be operated by instructed and authorized persons.

When leaving unattended, switch off or lock the main power switch to prevent unauthorized use.

This appliance has been designed for use with the pads specified by the manufacturer. The fitting of other pads may affect its safety.

Do not use on surfaces having a gradient of over 10% (6 degrees).

SAVE THESE INSTRUCTIONS

MESURES DE SÉCURITÉ IMPORTANTES

Lors de l'utilisation d'un appareil à batteries, il est nécessaire de respecter systématiquement des mesures de sécurité de base, comme suit :

PRENEZ NOTE DE TOUTES CES MESURES AVANT D'UTILISER CETTE MACHINE.

⚠ AVERTISSEMENT: Pour réduire les risques d'incendie, de chocs électriques, ou de blessures :

N'utiliser cette machine qu'en intérieur. Ne jamais l'utiliser à l'extérieur ou dans la pluie.

Utiliser cet appareil conformément aux instructions du présent manuel uniquement. N'utiliser que les composants et les accessoires conseillés par le fabricant.

Lorsque la machine ne fonctionnant pas correctement, a fait l'objet d'une chute ou d'une détérioration, a été laissée à l'extérieur, est tombée dans l'eau, la retourner au centre de service agréé.

Ne pas opérer la machine lorsque les conduits de ventilation sont bloquées. Débarrasser les débris des conduits, car ils peuvent réduire l'écoulement d'air.

Cette machine n'est pas adaptée au ramassage de poussières dangereuses

Ne pas l'utiliser près de liquides, de poussières ou de vapeurs inflammables.

L'entretien et les réparations de la machine doivent être effectuées par un personnel qualifié.

Si de la mousse ou du liquide sort de la machine, la mettre hors tension immédiatement.

Déconnecter les batteries avant de nettoyer la machine ou de la soumettre à un entretien.

Avant de se débarrasser de la machine, il est nécessaire de retirer les batteries et de les jeter correctement.

S'assurer que toutes les plaques d'avertissement ou de précaution sont lisibles et fixées correctement sur la machine.

Durant la manoeuvre de la machine, prendre garde aux personnes environnantes et notamment aux enfants.

Avant l'utilisation de la machine, veiller à positionner tous les couvercles et portes comme indiqué dans les instructions.

Lorsque la machine est laissée sans surveillance, s'assurer qu'elle ne se déplace pas de manière accidentelle.

Cette machine ne doit être manoeuvrée que par un personnel expérimenté et qualifié.

Lorsque la machine est laissée sans surveillance, la mettre hors tension ou verrouiller l'interrupteur principal afin d'empêcher un emploi non autorisé.

Seuls les produits chimiques recommandés par le fabricant doivent être utilisés.

Cette machine a été conçue pour être utilisée avec des garnitures spécifiées par le fabricant.

L'utilisation d'autres garnitures peut affecter sa sûreté.

N'employez pas sur des surfaces ayant un gradient de plus de 10% (6 degrés).

CONSERVER CES INSTRUCTIONS

The following symbols are used throughout this guide as indicated in their descriptions:

HAZARD INTENSITY LEVEL

There are three levels of hazard intensity identified by signal words -**WARNING** and **CAUTION** and ***FOR SAFETY***. The level of hazard intensity is determined by the following definitions:

⚠WARNING:

WARNING - Hazards or unsafe practices which COULD result in severe personal injury or death.

⚠CAUTION:

CAUTION - Hazards or unsafe practices which could result in minor personal injury or product or property damage.

FOR SAFETY: To Identify actions which must be followed for safe operation of equipment.

Report machine damage or faulty operation immediately. Do not use the machine if it is not in proper operating condition. Following is information that signals some potentially dangerous conditions to the operator or the equipment. Read this information carefully. Know when these conditions can exist. Locate all safety devices on the machine. Please take the necessary steps to train the machine operating personnel.

FOR SAFETY:

DO NOT OPERATE MACHINE:
Unless Trained and Authorized.
Unless Operation Guide is Read and understood.
In Flammable or Explosive areas.
In areas with possible falling objects.

WHEN SERVICING MACHINE:

Avoid moving parts. Do not wear loose clothing; jackets, shirts, or sleeves when working on the machine. Use Kärcher North America approved replacement parts.

⚠WARNING:

Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep battery compartment open during charging. Keep sparks and flames away from the batteries. Do not smoke around batteries.

⚠WARNING:

Disconnect batteries before working on machine. Only qualified personnel should work inside machine. Always wear eye protection and protective clothing when working on or near batteries. Avoid skin contact with the acid contained in the batteries.

⚠WARNING:

Never allow metal to lie across battery tops.

Les symboles ci-dessous sont utilisés à travers ce manuel comme illustré dans leurs descriptions :

DEGRÉS DE RISQUES EN CAS DE DANGER

Il existe trois degrés de risques identifiés par les termes signalétiques -AVERTISSEMENT et ATTENTION et POUR VOTRE SÉCURITÉ. Le degré de risque est défini de la manière suivante:

⚠ AVERTISSEMENT:

AVERTISSEMENT - Dangers ou méthodes dangereuses qui POURRAIENT provoquer de graves blessures ou entraîner la mort.

⚠ ATTENTION:

ATTENTION - Dangers ou méthodes dangereuses qui pourraient provoquer des blessures légères ou une détérioration du produit ou des biens immobiliers.

POUR VOTRE SÉCURITÉ: ce signe permet d'identifier les mesures de précaution à prendre pour assurer un bon fonctionnement du matériel.

Rendre compte immédiatement d'une défaillance ou d'une détérioration de la machine. Ne pas utiliser la machine si celle-ci ne fonctionne pas correctement. Lire soigneusement les informations ci-dessous signalant certains dangers potentiels pour l'opérateur de la machine. L'opérateur doit être absolument au courant de ces dangers potentiels. Localiser tous les dispositifs de sécurité sur la machine. Il est conseillé de prendre les mesures nécessaires pour former le personnel opérateur.

POUR VOTRE SÉCURITÉ:

NE PAS MANOEUVRER LA MACHINE:

Lorsqu'on n'est pas expérimenté ou qualifié.

Lorsque le guide d'utilisation n'est pas été lu ou compris.

Dans des zones inflammables ou explosives.

Dans des zones où des objets peuvent tomber.

LORS DE L'ENTRETIEN DE LA MACHINE:

Éviter les parties amovibles. Ne pas porter de vêtements amples, tels que des vestes, des chemises ou des vêtements avec manches lors de l'utilisation de la machine. Utiliser les pièces détachées Kärcher North America homologuées.

⚠ AVERTISSEMENT:

Les batteries émettent le gaz d'hydrogène. L'explosion ou le feu peut résulter. Étincelles de subsistance et flamme nue loin. Compartiment de batterie de subsistance ouvert en chargeant. Étincelles et flammes de subsistance loin des batteries. Ne fumez pas autour des batteries.

⚠ AVERTISSEMENT:

Déconnecter les batteries avant de travailler sur la machine. La machine ne doit être confiée qu'à un personnel qualifié. Porter systématiquement des lunettes et des vêtements de protection lors d'une intervention sur les batteries ou aux alentours. Éviter tout contact de la peau avec l'acide contenu dans les batteries.

⚠ AVERTISSEMENT:

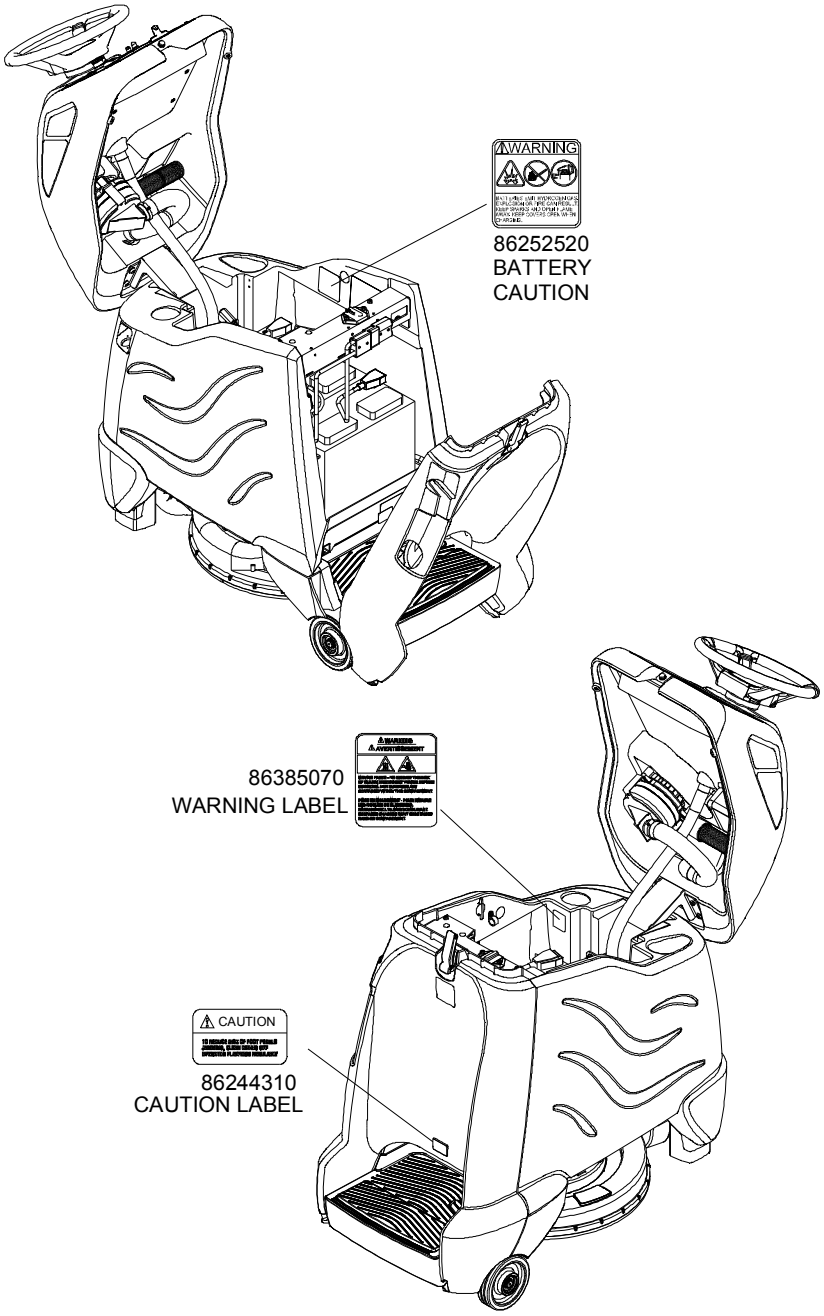
Ne jamais placer d'objets métalliques sur le dessus des batteries.

SAFETY LABEL LOCATIONS

These drawings indicate the location of safety labels on the machine. If at any time the labels become illegible, promptly replace them.

EMPLACEMENT DE L'ÉTIQUETTE DE SÉCURITÉ

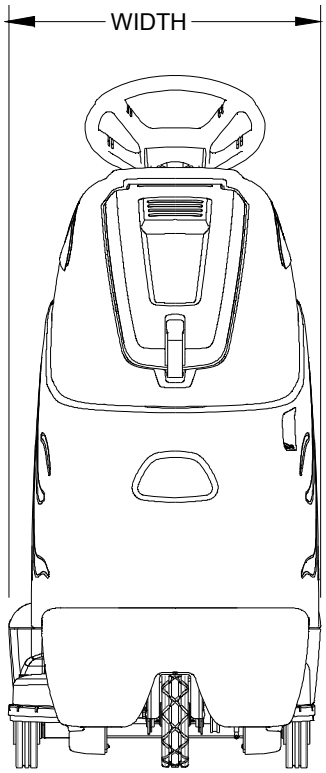
REMARQUE : Ces dessins indiquent l'emplacement des étiquettes de sécurité sur la machine. Si, à tout moment, les étiquettes deviennent illisibles, contactez votre représentant autorisé pour un remplacement rapide.

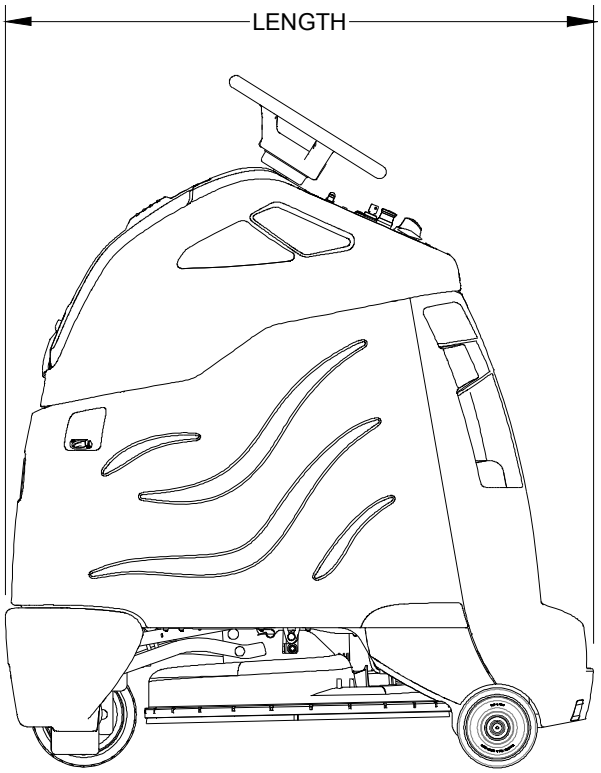


Technical Specifications

ITEM	DIMENSION/CAPACITY
Nominal Power	Passive Dust Control 2232W, Active Dust Control 2628W
Rated Voltage	36 Volts DC
Rated Amperage	Passive Dust Control 62A, Active Dust Control 73A
Batteries	3 X12 Volt 114 AH, 130 AH, 225AH, or 234AH @ 20 hr. rate
Battery Compartment Dimensions	21.5 in. x 15.25 in. x 16 in. tall (546mm x 387mm x 406mm tall)
Burnisher Motor	3.0 HP, 36V, 2000RPM (2237W)
Vacuum Motor	.63 HP (470 W)
Maximum flow rate of vacuum motor	72 cfm (33.98 liters per second)
Maximum suction of vacuum motor	47.3 inches of water (11.7 kPa)
Propelling Motor	.38 HP (280W)
Mass (GVW)	838 lbs (380 kg)
Weight empty without batteries	231 lbs (105 kg)
Burnisher pad diameter	20 inch (508 mm)
Tires	8 in. (203mm) drive, 6 in. (156mm) rear, polyurethane
Maximum Speed	2.3 mph (3.7Km/hour)
Theoretical Coverage	19,800ft²/hr @ 2.5 mph with 2 in. overlap
Brake	Electrical parking brake,sets automatically whenever operator stops.
Minimum aisle u-turn width	51in. (1295 mm)
Maximum rated climb and descent angle	10% (6 degrees)
Vibration, hands	1.58 m/s²
Vibration, feet	1.39 m/s²
Uncertainty	0.5 m/s²
Sound pressure level	Passive Dust Control 59.7 dBA, Active Dust Control 62.2 dBA
Sound power level	Passive Dust Control 76.3 dBA, Active Dust Control 80.1 dBA
Uncertainty	3.0 dBA

ITEM	MEASURE
Height	51.8 in (1316mm)
Length	44.0 in (1118mm)
Width	23.4 in. (594mm)
Width of burnish path	20 in (508mm)





⚠CAUTION:

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

⚠ATTENTION:

Cet appareil n'est pas prévu à l'usage des personnes (enfants y compris) avec des possibilités physiques, sensorielles ou mentales réduites, ou le manque d'expérience et de connaissance, à moins qu'ils aient été donnés la surveillance ou l'instruction au sujet de l'utilisation de l'appareil par une personne chargée de leur sûreté. Des enfants devraient être dirigés pour s'assurer qu'ils ne jouent pas avec l'appareil.

How This Machine Works

The Chariot® iGloss 20 is a battery powered, self-propelled, hard floor burnisher intended for commercial use. The appliance spins a high-speed burnishing pad in contact with the floor surface to produce a high luster shine.

The machine's primary systems are the burnishing system, the dust control system, and the operator control system.

The function of the burnishing system is to spin a high-speed burnishing pad in contact with a floor surface that has had a burnishable floor finish applied. The burnishing pad can be lowered to the floor and raised by the operator. The burnishing pad will spin only when the machine is directed to move by the operator.

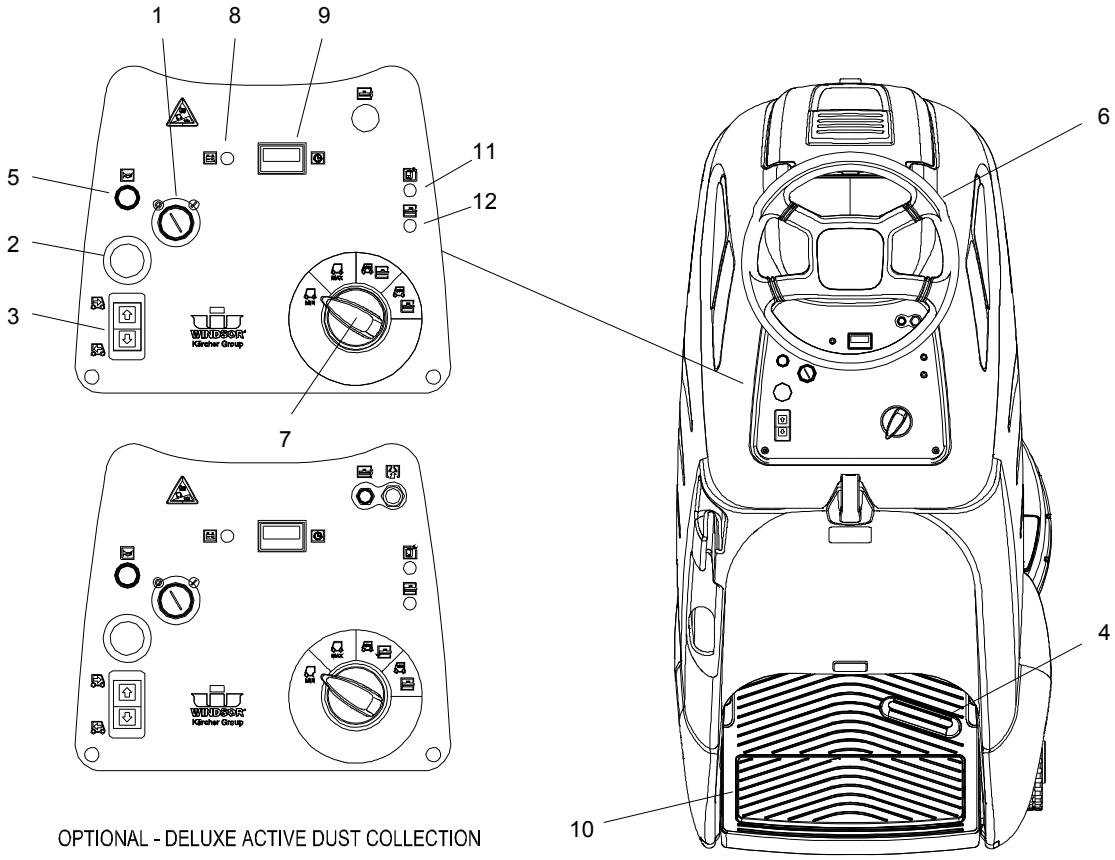
The function of the dust control system is to collect the dust that is created during the burnishing process. It is normal for a portion of the floor finish to be removed in the form of dust during the process. While burnishing, air movement is created within the burnishing head by the spinning pad. The dust that is also created is entrained in the air stream and transported to a filter bag where it is collected and separated from the air stream. The filter bag can be easily changed without releasing the collected dust. The optional active dust control system uses a vacuum motor to improve dust collection before, during, and after burnishing.

The function of the operator control system is to control the direction and speed of the machine. The directional control system consists of the direction control drive reset switch, throttle pedal, emergency stop/brake switch, steering wheel, propel controller, and drive wheel. The directional control drive reset switch signals forward or reverse direction and makes sure the operator is on the platform before machine will propel. The controller interprets signals from the throttle pedal to command the drive wheel to propel or slow the machine. The steering wheel points the drive wheel in the direction desired by the operator. The parking brake automatically engages when the operator stops the machine. The emergency stop/brake can be used to hold the machine on slopes.

Components

1. **Drive Control**
2. **Burnisher Controls**
3. **Control Console**
4. **Pedal Platform**
5. **Lower Body**
6. **Bag Enclosure**
7. **Bag Enclosure Cover**
8. **Burnisher Deck**
9. **Rear Cover**

Drive Controls



OPTIONAL - DELUXE ACTIVE DUST COLLECTION

1. **Key Switch**
2. **Emergency Stop/Brake Switch**
3. **Directional Control / Drive Reset Switch**
4. **Throttle Pedal**
5. **Horn Button**
6. **Steering Wheel**
7. **Speed Control/Function Select**
8. **Battery Discharge Indicator**
9. **Hour Meter**
10. **Operator Presence Switch**
11. **Bag Present indicator**
12. **Check Pad Indicator**

1. KEY SWITCH

Controls the power for machine functions.
To turn the machine power on, rotate key clockwise.
To turn the machine off, rotate key counterclockwise.
When the key is turned on the battery symbol will flash once and stay on continuously.

2. EMERGENCY STOP/BRAKE SWITCH

This safety feature is designed to cut all power to the machine at any time and apply parking brake.
To shut the machine power off, push the Emergency Stop Switch, this will also engage the parking brake and cause the machine to stop immediately.
To reset the machine, rotate the switch clockwise.

3. DIRECTIONAL CONTROL / DRIVE RESET SWITCH

This safety feature is designed to ensure safe engagement of propel drive. Each time the machine power is turned on, or each time an operator steps on to the platform, the Drive Reset Switch must be pushed before machine will propel.
The switch controls the direction of travel of the vehicle. The lighted arrow on the switch indicates direction of travel.
To travel forward, press the top of the switch.
To travel in reverse, press the bottom of the switch.

4. **THROTTLE PEDAL**

Controls the speed of the vehicle within the speed control setting selected. Pressing the pedal causes the machine to travel in the direction selected by the Directional Control Switch.
To increase speed, increase pressure on the pedal.
To decrease speed, decrease pressure on the pedal.

5. HORN BUTTON

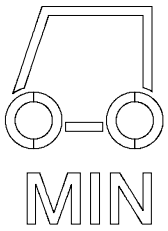
The horn is activated by pressing the horn button.

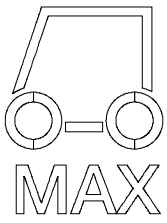
6. STEERING WHEEL

The steering wheel turns the front wheel causing the machine to change direction.

7. SPEED CONTROL

Controls the maximum speed of the machine. There are two settings, slow and fast.
To change speed, rotate the dial to either slow or fast position. The slow position is to the left (counterclockwise), fast to the right (top position).
The throttle pedal will always regulate the speed between 0 and maximum





8. BATTERY DISCHARGE INDICATOR

Indicates the charge level of the batteries.
The indicator will be illuminated if the batteries have a sufficient charge. A slow, continuous flash indicates the batteries require charging.

The Battery Lockout function will activate when the batteries are low.
Once active, the LED status indicator will begin to flash slowly and the controller will inhibit the burnisher motor. The vacuum and drive remain functional. Return the unit to the charging station and charge the batteries.
NOTES: Continuing usage may damage the batteries.

When the machine is left overnight with less than a full charge, the display may initially indicate a full charge. It will also indicate a full charge if the batteries are disconnected, then reconnected. After a few minutes of operation the indicator will give the correct charge level.

9. HOUR METER

Records the number of hours the machine has been in burnishing operation. This information is useful in determining when to service the machine.

10. OPERATOR PRESENCE SWITCH

Must be pressed down prior to any machine functions enabled.

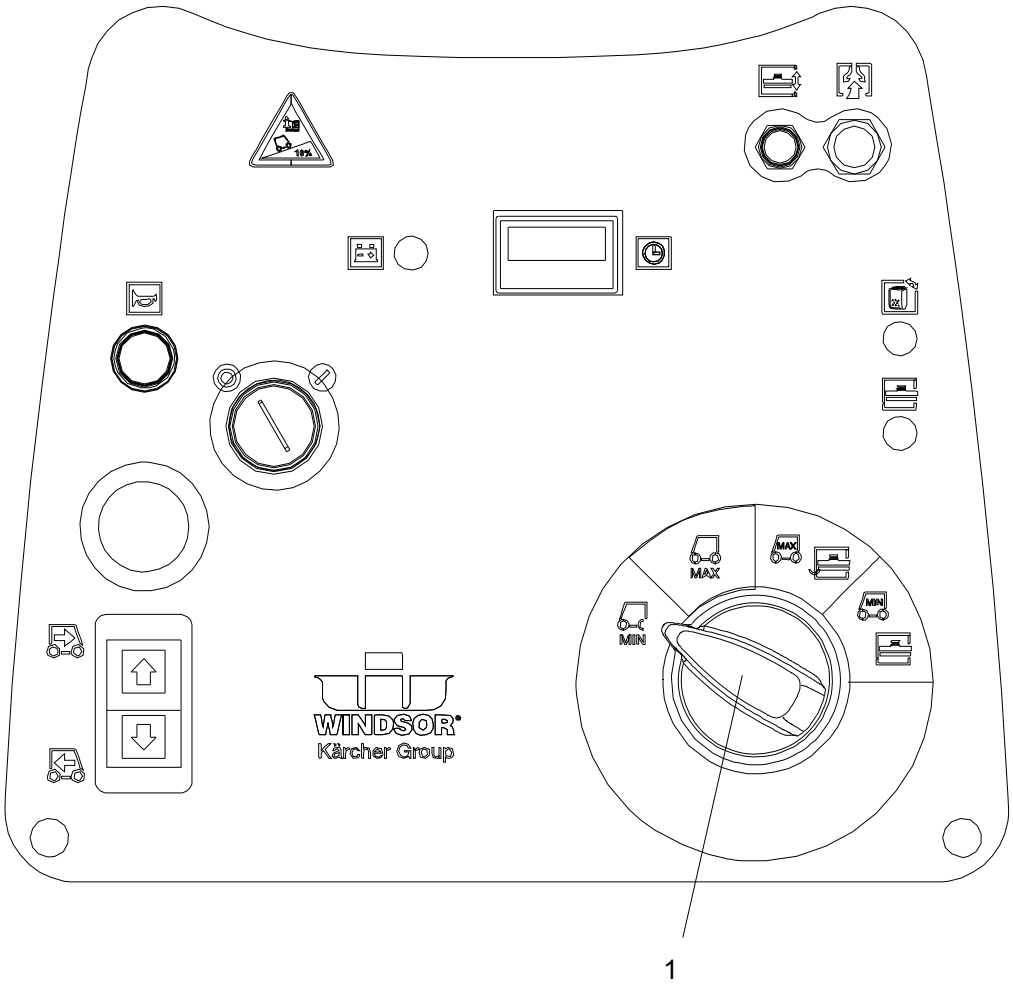
11. BAG PRESENT INDICATOR

Notifies operator if dust collection bag is missing. LED is red when bag is missing or not properly installed.

12. CHECK PAD INDICATOR

Notifies operator of potential problem with pad or missing pad. When LED is red, operator should remove pad driver and verify pad condition and proper installation.

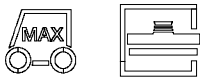
Function Mode Switch



1. Function Mode Switch

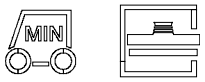
The first two positions are for transport only. See drive controls section.

Light burnishing



This mode is used for light burnishing. In this mode the machine will propel at fast speed. The ‘floating’ burnisher deck is in the down position. When equipped with optional active dust collection, vacuum motor will be on.

Deep burnishing



This mode is used for deep burnishing. In this mode the machine will propel at slow speed. The ‘floating’ burnisher deck is in the down position. When equipped with optional active dust collection, vacuum motor will be on.

Machine Operation

Pre-Run Machine Inspection

Do a pre-run inspection to find possible problems that could cause poor performance or lost time from break-down. Follow the same procedure each time to avoid missing steps.

NOTE: See maintenance section for pre-run machine inspection checklist items.

Starting Machine

NOTE: Perform pre-run machine check before operating machine.

FOR SAFETY: Before starting machine, make sure that all safety devices are in place and operating properly.

1. Disconnect or unplug battery charger.
2. Close the cover(s).
3. Verify condition of burnishing pad, replace if necessary.
4. Verify removable pad driver is installed correctly and pad rotation lock is released.
5. The operator should be on the pedal platform. The throttle pedal must be in the neutral position.
6. Turn the machine power on by turning key switch clockwise to the “ON” position.
7. Verify dust collection bag is installed.
8. Press the Drive Reset Directional Control Switch to reset and set the intended direction for travel.
9. Press lightly on the throttle pedal with right foot

Emergency Stop Procedure

Push in emergency stop button. This will also engage the parking brake and cause the machine to stop immediately.

Operating the Machine

When operating the machine around people, pay close attention for unexpected movement. Use extra caution around children.

1. Stand on the operator platform. Throttle pedal must be in neutral position.
2. Turn machine power on.
3. Select transport speed from Function Mode Switch.
4. Press the Drive Reset/Directional Control Switch, selecting the desired travel direction.
5. Select Light burnishing or Deep burnishing from the Function Mode Switch. Deck will Lower.
6. The pad motor will only run when the burnishing head is lowered to within 2 inches of the floor.
7. Occasionally verify “check pad” indicator light is “green”. If not, stop machine, remove pad driver and check pad. Replace or flip as needed.

   NOTE: To prevent possible damage to the floor surface, always keep the machine moving while the pad is spinning.

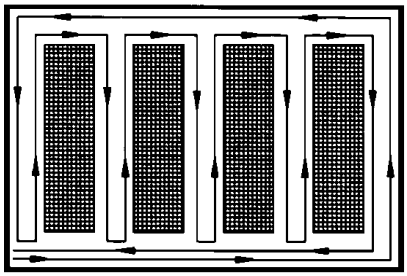
8. When the head is down and the machine is propelled, the pad motor runs.
9. When the battery light flashes it indicates discharged batteries, stop operation and charge batteries.

Normal Burnishing

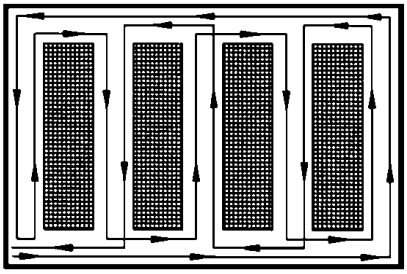
Plan the burnishing pattern in advance. The longest track is around the perimeter of the area to be burnished. For efficient operation, the runs should be the longest possible without turning, stopping, or raising or lowering the burnisher head.

In order to achieve the best possible results, the area which is to be burnished should be swept and auto scrubbed before burnishing.

INEFFICIENT BURNISHING PATH

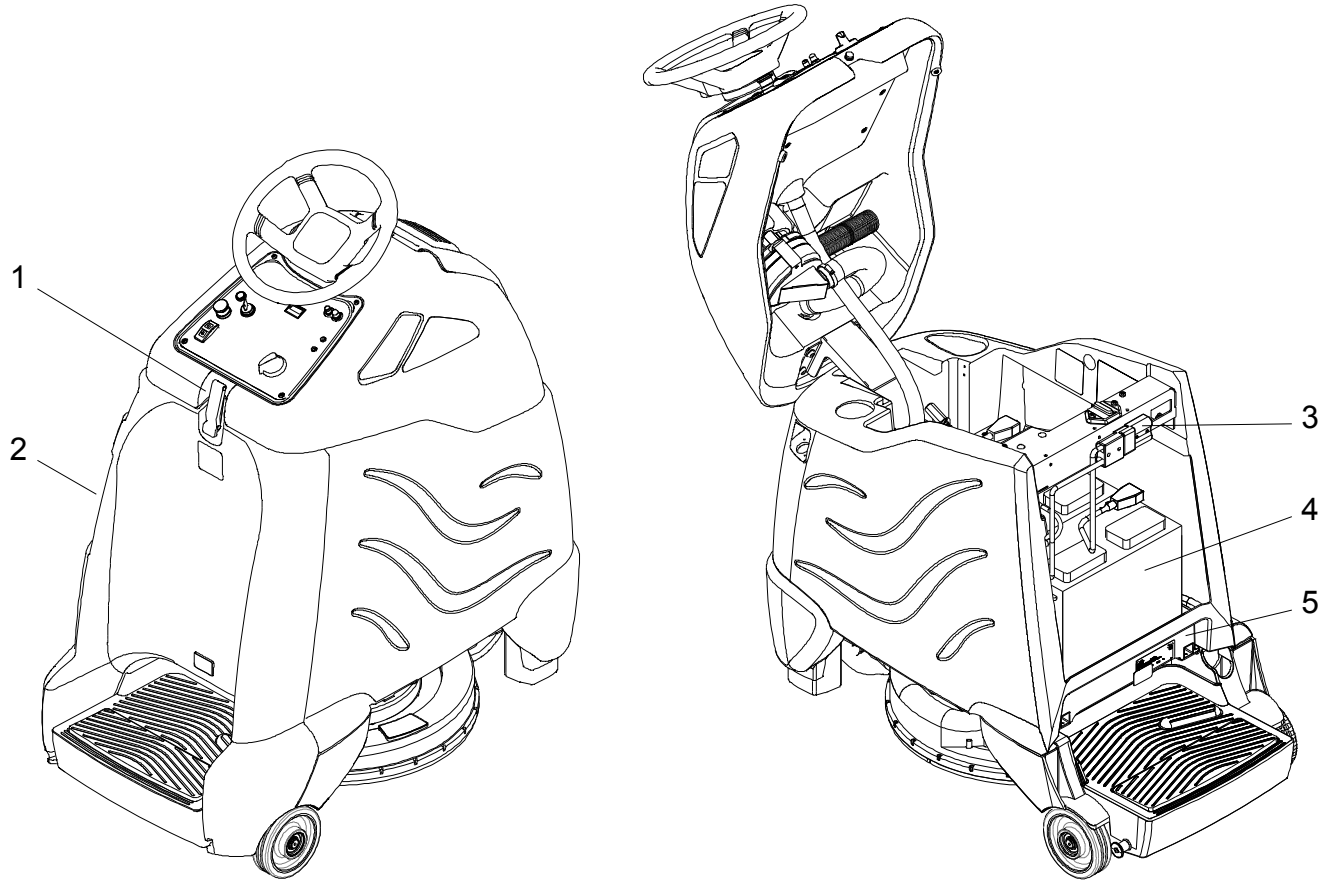


RECOMMENDED BURNISHING PATH



Service Schedule

MAINTENANCE	BEFORE EACH WORK PERIOD	AFTER EACH WORK PERIOD	50 HRS	100 HRS	200 HRS
Check water level of batteries after charging; add distilled water if necessary. (Wet cell only)	*				
Visually check for damaged or worn tires.	*				
Check brush or pad for proper installation.	*				
Check vacuum hose connections.	*				
Check pedal, brake and steering for proper operation.	*				
Check dust bag.		*			
Charge batteries if needed.		*			
Clean off top of batteries.			*		
Check battery cells with hydrometer. (Wet cell only)			*		
Inspect deck skirt.			*		
Check battery connections are tight.			*		
Clean battery cases and battery compartment.				*	
Check parking brake.					*
Clean pivot points on burnishing head.					*
Check all motors for carbon brush wear.					*
Check steering chain tension.					*
Check drive chain tension.					*



1. **Cover Retainer Latch**
2. **Rear Cover**
3. **Battery Connector-Machine**
4. **Batteries**
5. **Battery Tray**

Batteries (Wet Cell)

The batteries provide the power to operate the machine. The batteries require regular maintenance to keep them operating at peak efficiency.

The machine batteries will hold their charge for long periods of time, but they can only be charged a certain number of times. To get the greatest life from the batteries, charge them when their charge level reaches 25% of a full charge. Use a hydrometer to check the charge level.

Do not allow the batteries to remain in a discharged condition for any length of time. Never expose a discharged battery to temperatures below freezing. Discharged batteries will freeze causing cracked cases. Do not operate the machine if the batteries are in poor condition or if they have a charge level below 25% (specific gravity below 1.155).

Keep all metallic objects off the top of the batteries, as they may cause a short circuit. Replace worn or damaged cables and terminals.

Check the electrolyte level in each battery cell before and after charging the batteries. Never add acid to the batteries, use distilled water. Do not allow water level to fall below the battery plates. Portions of plates exposed to air will be destroyed. Do not overfill. Keep plugs firmly in place at all times.

⚠WARNING:

Not all batteries require maintenance. AGM batteries are maintenance free. Do not attempt to remove sealed caps from AGM batteries. Warranty is void if caps are removed from AGM battery.

⚠ AVERTISSEMENT:

L’entretien n’est pas nécessaire pour toutes les batteries. Les batteries AGM ne nécessitent pas d’entretien. N'essayez pas d'enlever les bouchons scellés des batteries AGM. La garantie est annulée si les bouchons sont retirés des batteries AGM.

⚠CAUTION:

When servicing machine, avoid contact with battery acid.

⚠ ATTENTION:

Lors de l'entretien de la machine, évitez tout contact avec l'acide de batterie.

⚠WARNING:

Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep covers open when charging.

⚠ AVERTISSEMENT:

Les batteries émettent du gaz hydrogène. Une explosion ou un incendie peut en résulter. Maintenez les étincelles et les flammes nues à l'écart. Gardez les carters ouverts lors du chargement.

⚠WARNING:

Wear eye protection and protective clothing when working with batteries.

⚠ AVERTISSEMENT:

Portez des lunettes de protection et des vêtements de protection lorsque vous travaillez avec des batteries.

⚠WARNING:

Charge batteries in a well ventilated area.

⚠ AVERTISSEMENT:

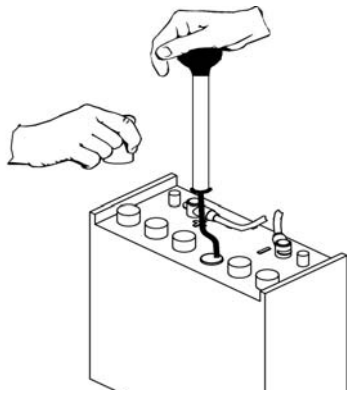
Chargez les batteries dans un endroit bien ventilé

Battery Maintenance

1. When cleaning the batteries, use a solution of baking soda and water. Do not allow the cleaning fluid to enter the battery cells, electrolyte will be neutralized.
2. Maintain the proper electrolyte level in each battery cell. If a cell should accidentally overflow, clean immediately.
3. Wipe off the top of the batteries at least once a week.
4. Test battery condition with a hydrometer at least once a week.
5. Ensure that all connections are tight and all corrosion removed.
6. Every 4 to 6 months, remove the batteries from the machine and clean the battery cases and battery compartment.

Checking Battery Specific Gravity

Use a hydrometer to check the battery specific gravity.



CHECKING GRAVITY

a. Hydrometer Battery
b. Battery

NOTE: Do not take readings immediately after adding distilled water, if the water and acid are not thoroughly mixed, the reading may not be accurate.

Check the hydrometer readings against this chart.

SPECIFIC GRAVITY @ 80°F (27°C)	***BATTERY CONDITION***
1.265	*100% CHARGED*
1.225	*75% CHARGED*
1.190	*50% CHARGED*
1.155	*25% CHARGED*
1.120	*DISCHARGED*

NOTE: If the readings are taken when the battery electrolyte is any temperature other than 80°F (27°C), the reading must be temperature corrected.

To find the corrected specific gravity reading when the temperature of the battery electrolyte is other than 80°F (27°C): Add (+) to the specific gravity reading 0.004 (4 points), for each 10°F (6°C) above 80° (27°C). Subtract (-) from the specific reading 0.004 (4 points), for each 10°F (6°C) below 80°F (27°C).

Charging Batteries

⚠CAUTION:

When servicing machine, avoid contact with battery acid.

⚠ ATTENTION:

Lors de l'entretien de la machine, évitez tout contact avec l'acide de batterie.

⚠WARNING:

Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep covers open when charging.

⚠ AVERTISSEMENT:

Les batteries émettent du gaz hydrogène. Une explosion ou un incendie peut en résulter. Maintenez les étincelles et les flammes nues à l'écart. Gardez les carters ouverts lors du chargement.

⚠WARNING:

Wear eye protection and protective clothing when working with batteries.

⚠ AVERTISSEMENT:

Portez des lunettes de protection et des vêtements de protection lorsque vous travaillez avec des batteries.

⚠WARNING:

Charge batteries in a well ventilated area.

⚠ AVERTISSEMENT:

Chargez les batteries dans un endroit bien ventilé

Use a 36 volt, 20 amp maximum output DC charger which will automatically shut off when the batteries are fully charged.

1. Stop the machine in a clean, well ventilated area next to the charger.
2. Turn "OFF" machine.

   FOR SAFETY: Before leaving or servicing machine; stop on level surface, turn off machine and remove key.

3. Remove rear cover, unplug batteries from machine.

⚠WARNING:

Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep covers open when charging.

⚠ AVERTISSEMENT:

Les batteries émettent du gaz hydrogène. Une explosion ou un incendie peut en résulter. Maintenez les étincelles et les flammes nues à l'écart. Gardez les carters ouverts lors du chargement.

4. Check the electrolyte level in each battery cell. Before charging, add just enough distilled water to cover the plates. After charging is complete, add just enough distilled water to bring up the level to the indicator ring. If the water level is too high before charging, normal expansion rate of the electrolyte may cause an overflow resulting in a loss of battery acid balance and damage the machine.

5. Replace the battery caps, and leave them in place while charging.
6. Unplug the battery connector from the machine.

FOR SAFETY: When charging, connect the charger to the batteries before connecting the charger to the AC wall outlet. Never connect the charger to the AC wall outlet first. Hazardous sparks may result.

7. Plug the charger connector into the battery connector. Connect the charger AC plug to a wall outlet. The charger gauge should indicate that the batteries are charging.
8. When the batteries are fully charged, disconnect the charger from the AC wall outlet, then disconnect the charger from the batteries.
9. Connect the batteries to the machine connector.
10. Check the electrolyte level. It should be up to the indicator ring. If necessary, add distilled water.
11. Install the rear cover.

Changing Batteries

Stop the machine in a clean area next to the charger. Turn off machine.

FOR SAFETY: *Before leaving or servicing the machine; stop on level surface, turn off machine and remove key.*

1. Open the console cover.
2. Remove rear cover.
3. Disconnect battery pack from machine.

Use the proper size open end wrench to disconnect main ground wire first and secure cable terminal away from batteries.

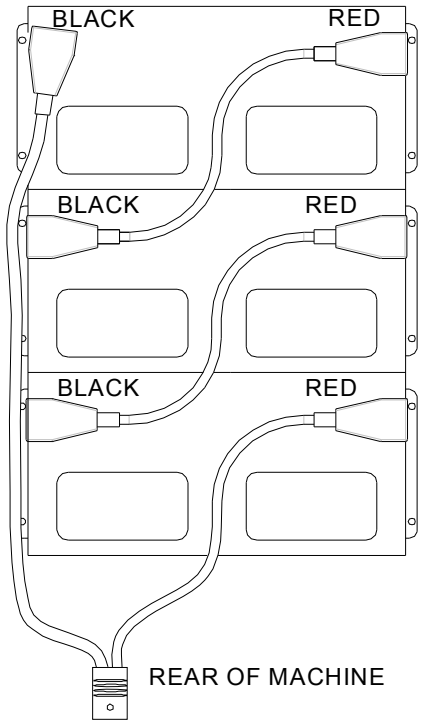
4. Disconnect main positive lead and secure cable terminals away from batteries.
5. Loosen both terminals on each jumper cable and remove one at a time.
6. Prepare a suitable site to place the batteries.

⚠WARNING:

Attach suitable battery lifting device and lift batteries from the machine. Batteries are a potential environmental hazard. Consult your battery suppler for safe disposal methods.

⚠ AVERTISSEMENT:

Fixez le dispositif de levage de batterie approprié et levez les batteries de la machine. Les batteries constituent un danger potentiel pour l'environnement. Consultez le fournisseur de votre batterie pour connaître les méthodes d'élimination sûres.



NOTE: Red (+) and Black (-) installed opposite for 225 AH (J185) battery configuration.

Battery Charger Programming

NOTE: For machines equipped with optional on-board charger. When replacing batteries, charger programming changes may be required. If replacing batteries with same type, (e.g. maintenance free batteries with maintenance free) no programming is required. When batteries with different type (e.g.maintenance free with wet cell), programming changes are required. Failure to make programming changes may lead to reduced battery life.

Programming Instructions

The charger is pre-loaded with the charge algorithms shown below:

AlgID	Description
1	Trojan J185H
5	Trojan 30XHS
42	Discover AGM EV31A-A
43	Discover AGM EV185A-A

Check Default Charge Algorithm

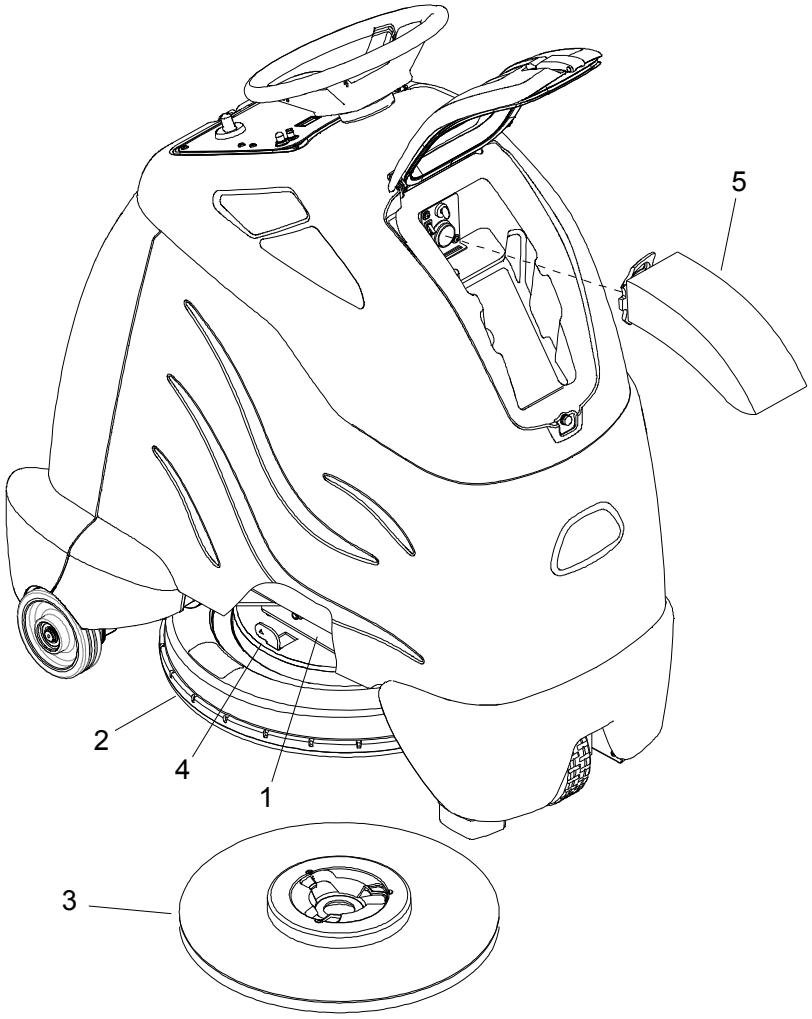
Enter Algorithm Display Mode:

1. Disconnect AC Power.
2. Remove positive lead from battery pack.
3. Apply AC power and the charger will display the algorithm number after the Power On Self Test:
   a. All algorithms will display as a series of flashes of the 80% LED.
   b. Algorithms #1 - 6 will also be indicated by the Ammeter LEDs (see Users Guide).
   Examples:
   ☼☼☼ = Algorithm #3
   ☼☼ , Short Pause, ☼ = Algorithm #21
4. Algorithm number display repeats for 11 seconds, then Algorithm Display Mode ends.
5. Remove AC Power and reconnect positive lead.

Check Default Charge Algorithm

1. Enter Algorithm Display Mode (as above).
2. While Algorithm Number is displayed (for 11 seconds), touch positive lead to the battery pack positive terminal for 3.0 seconds (± 0.5s).
3. Remove lead from battery pack. Algorithm Number will increment.
4. To increment the Algorithm Number again, repeat Steps 2 and 3 within 30 seconds.
5. Touch positive lead to positive terminal and hold until relay clicks (>10 seconds). The new default algorithm is now stored.
6. Remove AC power and check default algorithm.

Contact your original equipment manufacturer if your battery pack is not supported by the charge algorithms loaded in your charger.



Burnishing Deck

1. **Burnisher Motor**
2. **Skirt**
3. **Pad Driver/Pad**
4. **Pad Rotation Lock Lever**

Dust Collection

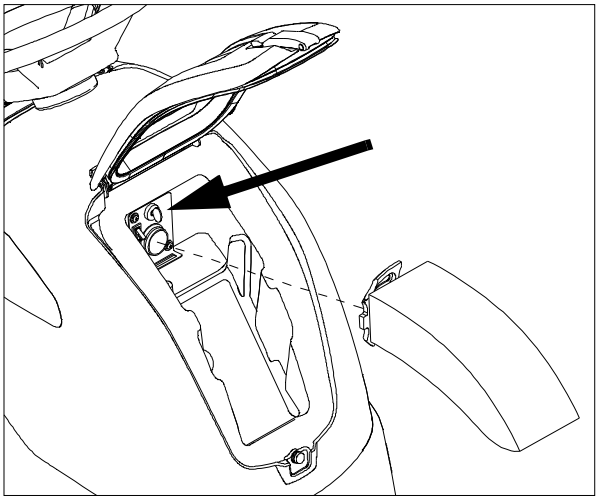
5. **Dust Bag**

Burnishing Pad

Many types of pads are available for floor burnishing. Select a pad type based on floor type and floor finish for best results.

Dust Bag Replacement

1. Release latch and raise cover to access dust bag.
2. Turn thumb screw to horizontal position to release dust bag.
3. Remove dust bag at the plastic frame from the bag mounting bracket.
4. Reverse procedure to install new bag.

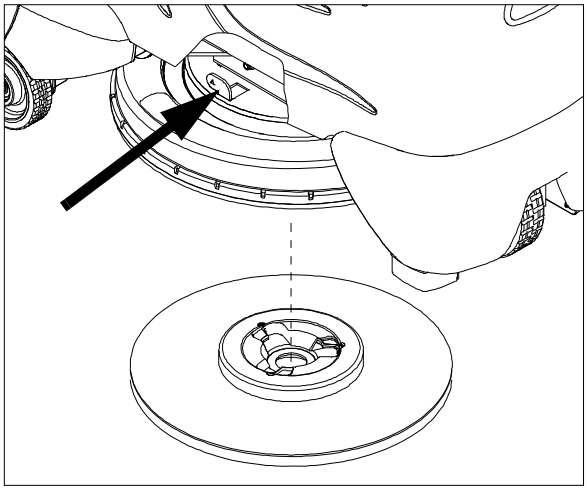


Dust Control Skirt Replacement

1. Raise burnisher deck with Function Mode Switch set to transport mode.
2. Find ends of brush skirt. Pull down on one end to release from shroud snap features. Once released from two snaps, gently pull skirt parallel to the floor to fully remove from shroud.
3. Install new skirt by pushing up into snaps one at a time working around shroud diameter.
4. Where the ends meet, trim any excess skirt with scissors or wire cutter.

Pad Replacement

1. Set the burnisher deck to the raised position.
2. To remove the pad driver:
   - Push in and hold the Pad Rotation Lock lever.
   - Grip the outside diameter of the pad and pad driver.
   - Rotate firmly counterclockwise. Pad driver will disconnect from motor hub.
   - Release Pad Rotation Lock lever.



3. To remove pad from pad driver:
   - Set pad driver on flat surface with pad facing up.
   - Release pad retainer from center of pad using retainer's wire clip.
   - Peel pad off pad driver.
4. To install pad on pad driver:
   - Center the pad on pad driver with pad facing up.
   - Check the pad inner diameter where the pad fits over the raised ring of the pad retainer.
   - Install pad retainer making sure wire clips snap in place. Pad will need to compress to engage pad retainer clips
5. To install the pad driver:
   - Push in and hold the Pad Rotation Lock lever.
   - Hold the pad driver parallel to the floor under the shroud.
   - Lift pad driver up to contact hub keeping level and centered with motor shaft.
   - Rotate pad driver clockwise applying light pressure up on the hub. Pad driver will align with hub and move up.
   - Continue rotating clockwise approximately 15 degrees to fully engage hub.
   - Release Pad Rotation Lock lever.

NOTE: Final tensioning of the pad driver occurs as the motor rotates during burnishing.

Burnisher Motor Replacement

1. Remove the pad driver assembly.
2. Lower the burnisher deck using the Function Mode Switch.
3. Turn the key to the off position.
4. Unplug the battery pack from the machine.
5. Disconnect the positive and negative wires from the posts at the front of the motor. Note the positions for reassembly. Isolate the ends of the wires as batteries will be connected in step 6.
6. Unhook deck lift springs, one per side. Prevent bracket from retracting inside body of machine by using holes and temporary cross pin.
7. Remove the hardware (4X) connecting the linkage to the motor mount. Note the stack arrangement of the hardware for reassembly.
8. Plug in the battery pack. Turn on the key. Turn the Function Mode Switch to transport to raise upper linkage.
9. Slide the deck assembly from under the machine.
10. Flip the deck assembly over.
11. Slide Pad Rotation Lock lever in and hold while removing bolt and washer from pad driver hub.
12. Release Pad Rotation Lock lever slide hub and key off motor shaft.
13. Remove bolts and washers (4X) holding inner shroud and plate. Remove motor from shrouds and motor mount.
14. Reverse process to reinstall.

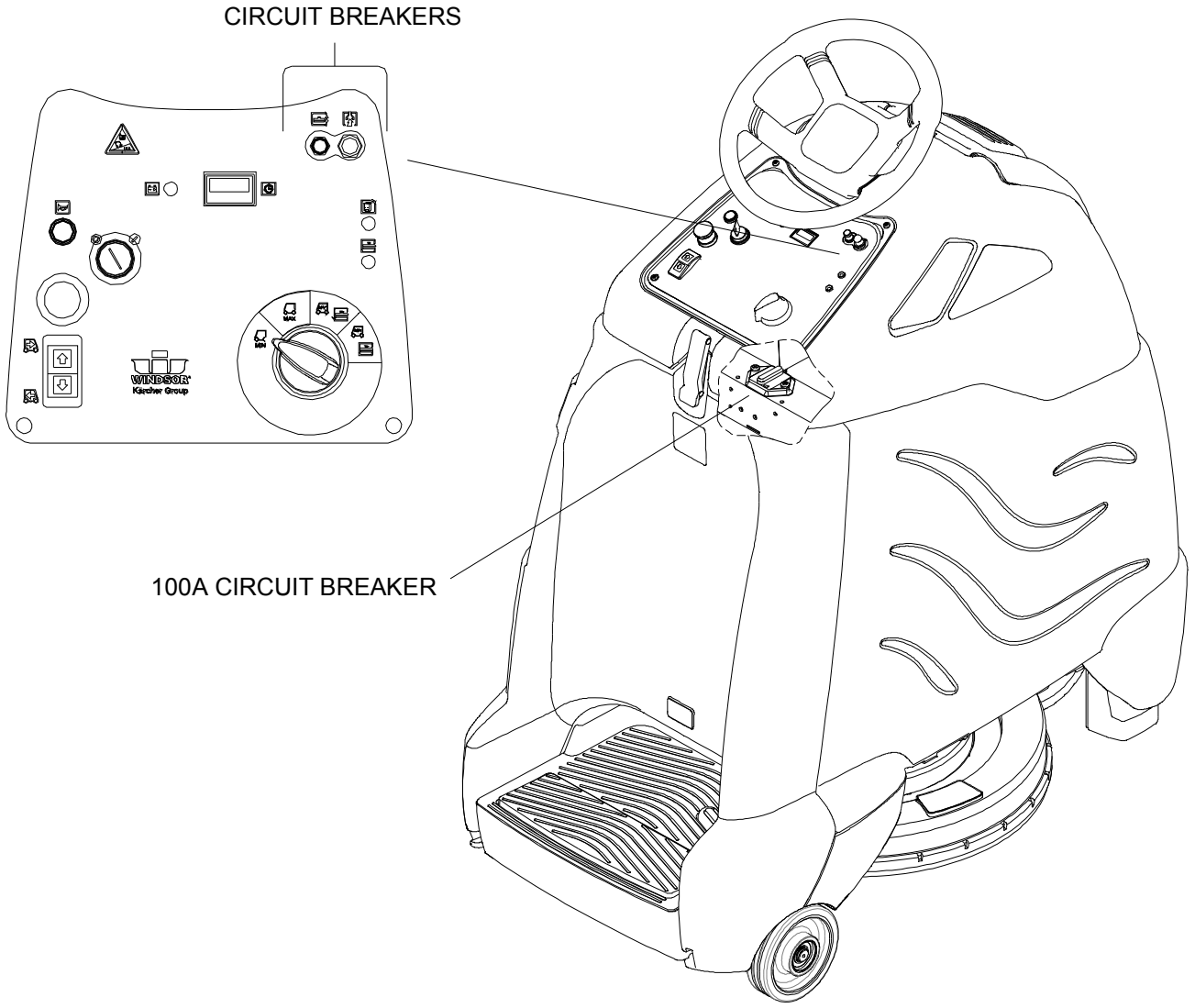
Burnisher Motor Carbon Brush Ring Replacement

1. Follow steps 1-9 of “Burnisher Motor Replacement” to access the top of the motor.
2. Remove flat head screws (4X) in the motor cover. Remove the cover.
3. Remove hex head screws (4X) holding the brush ring assembly to the motor casting.
4. Slide the brush ring assembly off the motor commutator.
5. Clean excessive carbon deposits off motor components with compressed air.
6. Prepare new brush assembly for use by inserting individual brush springs into brush guides. Check each brush to ensure proper movement after installing springs.
7. Depress brushes as required to insert brush housing over commutator.
8. Check area under cable lugs to make sure brush ring is seated against casting fully.
9. Replace hex head screws (4X) holding the brush ring assembly.
10. Rotate motor to check for smooth rotation.
11. Replace motor cover and flat head screws (4X).
12. Reverse steps in step 1 to reinstall to machine.

Deck Actuator Removal / Replacement

FOR SAFETY: Before leaving or servicing machine, stop on a level surface. Turn off machine.

1. Support deck under pad driver so that actuator pins can be removed.
2. Remove bumper screws (2).
3. Remove front battery.
4. Pull steering shaft.
5. Disconnect actuator from wiring harness.
6. From the underside of the machine, remove lower lifting pin from actuator.
7. Remove clevis pin from actuator upper bracket.
8. Lift actuator upward and free from machine.
9. Reverse steps to install.



Circuit Breakers

Circuit breakers interrupt the flow of power in the event of an electrical overload. When a circuit breaker is tripped, reset it by pressing the exposed button. If a circuit breaker continues to trip, the cause of the electrical overload should be found and corrected.

1.5 Amp protects the deck lift actuator, horn & controller.

18 Amp protects the vacuum motor.

100 Amp protects the burnisher motor.

Body Assembly Removal

In order to access the frame or drive components, the entire tank/console cover assembly can be removed as a single unit.

Body Removal:

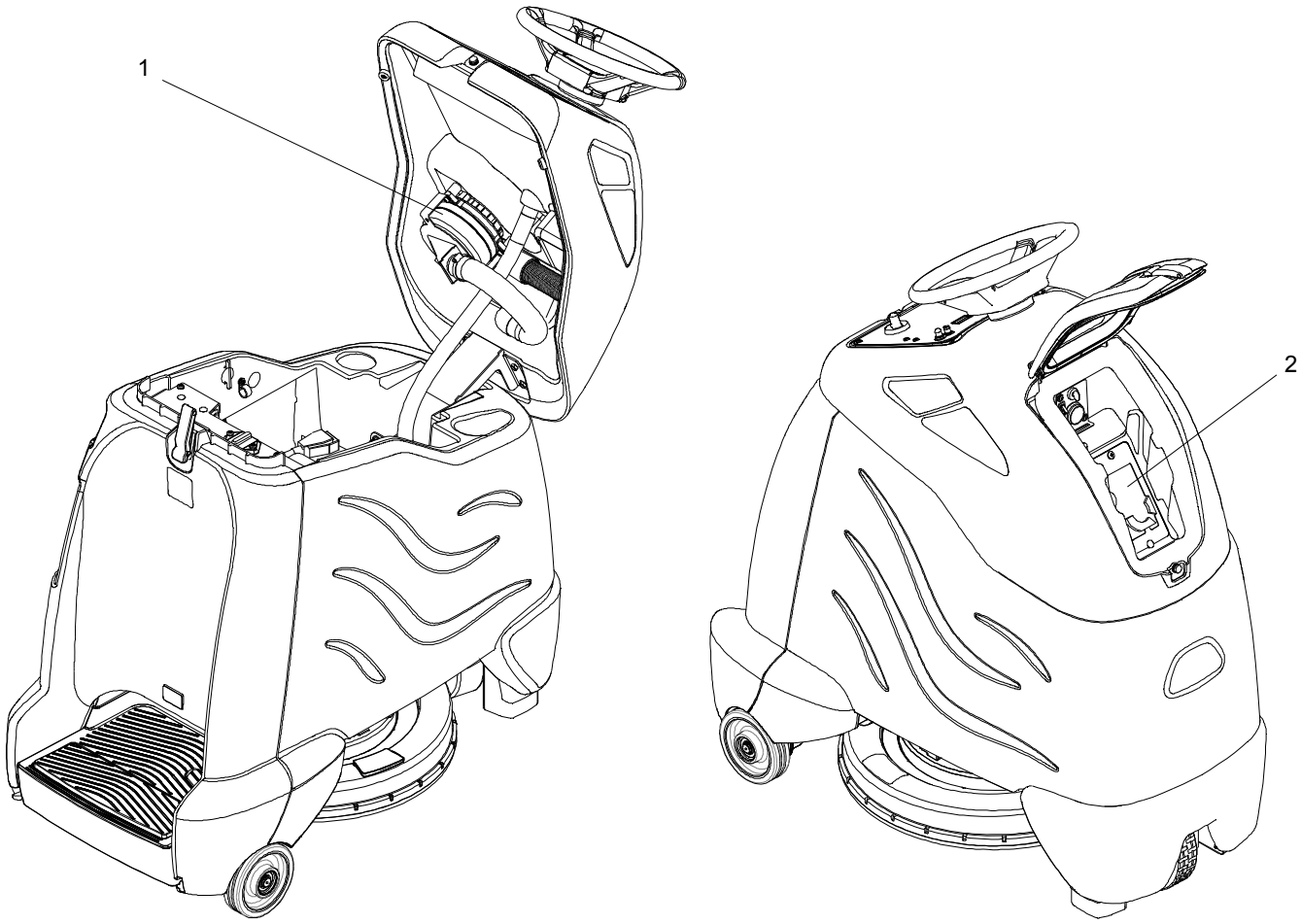
1. Open the console cover.
2. Remove back panel.
3. Grasp the lower end of the flexible steering shaft and pull it straight up until it is disengaged with the hex steering shaft.
4. Disconnect the five electrical plugs located just forward of the battery tray. Access plugs through front left hole in main body.
5. Remove the battery cable connection from the rear cross member.
6. Close the console cover.
7. Remove the bumper. One mounting bolt per side is located just above the tip pads on the inside.
8. Remove 6 bolts holding the body in place.
9. The body assembly can now be lifted off the chassis and set aside.
10. Reverse the process for reassembly.

Drive Unit Removal

1. Remove tank assembly.
2. Pull the brake and drive electrical connectors off of their support plate.
3. Remove the P-clamp holding the cable.
4. Lift the chain cover plate off of the motor.
5. Support the chassis on the tip pads so that the front wheel is 10 inches off the floor.
6. Locate and remove two mounting nuts and remove the drive unit from below.
7. To reinstall, reverse the process.

NOTE: The small tab at the front of the drive unit frame should line-up with the notch in the mating plate.

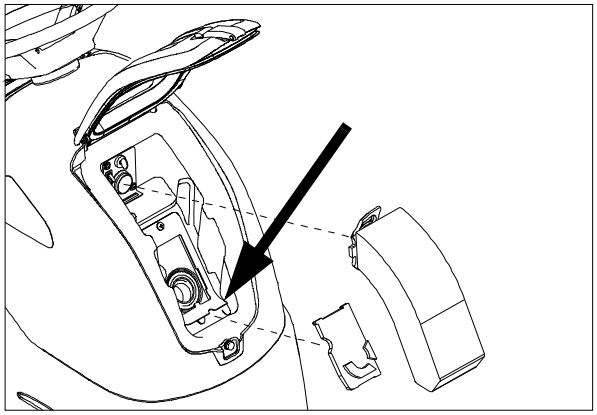
Vacuum - Optional



1. Vacuum Motor
2. Vacuum Filter

To Replace Vacuum Filter

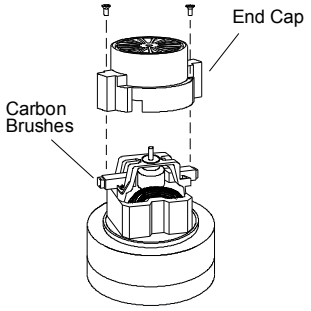
1. Open dust bag cover.
2. Remove dust bag.
3. Unlock bottom of filter frame by bending it slightly and slide from under the bolt head.
4. Lift filter out of housing.
5. Reverse steps to install.



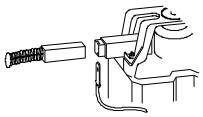
Vacuum Motor Carbon Brush Replacement

***FOR SAFETY:* before leaving or servicing machine, stop on a level surface, turn off machine and disconnect power.**

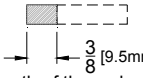
Vacuum Motor Carbon Brushes



If armature commutator is grooved, extremely pitted or not concentric, the motor will need to be replaced or sent to a qualified service center.



Inportant:
These brushes wear quicker as the length shortens due to increased heat. Spring inside brush housing will damage motor if brushes are allowed to wear away completely.

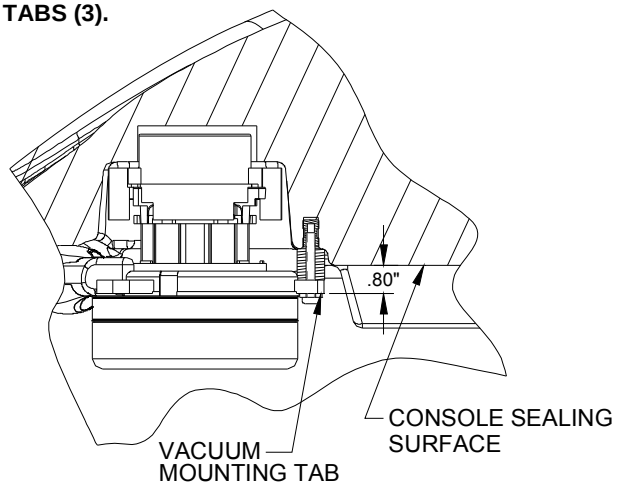


Periodically check the length of the carbon brushes. Replace both carbon brushes when either is less tan 3/8" (9.5mm) long.

To Repair or Replace Vacuum Motor

1. Remove four (4) screws from top of control panel.
2. Tip control panel back from console to expose vacuum motor wires.
3. Disconnect electrical connector from the vacuum motor.
4. Replace control panel, attach with one (1) screw to secure in place.
5. Open console.
6. Remove three (3) screws and mounting bracket that secure vacuum motor.
7. Reverse steps to install.

MOUNT .80" FROM SEALING SURFACE OF CONSOLE TO THE TOP OF THE MOUNTING TABS (3).



NOTE: If vacuum motor is not mounted as shown, vacuum may not seal properly, resulting in poor performance.

Drive Motor-From Serial Number (3*)

Drive Motor Carbon Brush Replacement

⚠ CAUTION:

Do not use a pressure washer to clean around the brush motors. Use tap pressure only.

⚠ ATTENTION:

N'utilisez pas de nettoyeur haute pression pour nettoyer autour des moteurs des brosses. Utilisez seulement la pression du robinet.

FOR SAFETY: Before leaving or servicing machine, stop on a level surface, turn off machine and remove motor carbon brushes.

1. Open the console cover.
2. Tilt the rear panel back until it stops on the lanyard.
3. Grasp the lower end of the flexible steering shaft and pull it straight up until it is disengaged with the hex steering shaft.
4. Remove the cover and gasket at the steering shaft area.
5. Grasp the drive wheel by reaching under the front bumper and turn it to near the left steering stop.
6. The drive motor carbon brushes are located under the metal band. Remove the band to access the 4 brushes.
7. Remove the phillips screw that holds each lead. Remove the brushes.
8. Install the new brushes and reinstall the band.
9. Replace the gasket and cover, set the drive wheel straight ahead, set the steering wheel straight ahead, and gently align the steering shaft coupling and slide onto the lower shaft.
10. Slowly close the cover and make sure the shaft slides without binding.

Drive Chain Tension

The drive chain should deflect about 1/4 inch on either side of the loop when the opposite side is tight.

To adjust chain tension:

1. Remove bumper.
2. Loosen the 1/4" nut behind the idler sprocket.
3. Tighten the front screw to increase chain tension.
4. Re-tighten the 1/4" nut behind the idler.
5. Reinstall the bumper.

Transporting Machine

This machine is equipped with a drive gear engagement/disengagement lever.

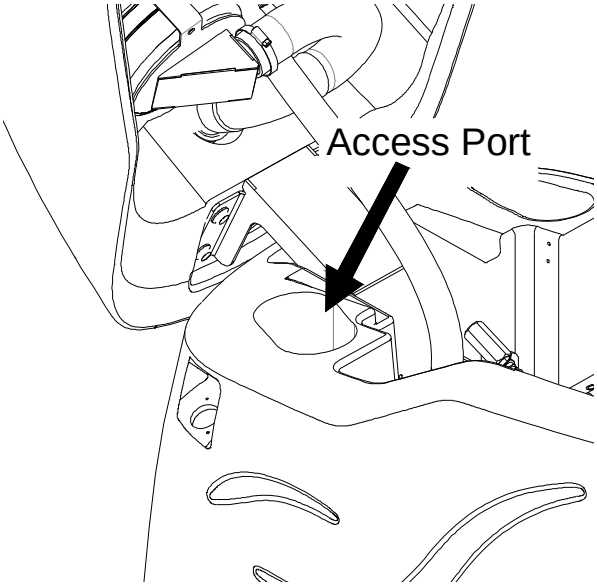
The brake automatically engages and keeps the machine from moving whenever the operator stops the machine.

The drive gear can be disengaged so the machine can be pushed or towed (slowly).

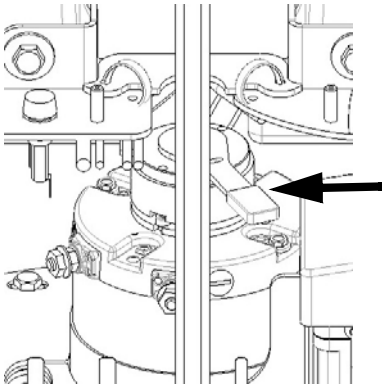
When the drive gear is disengaged the machine cannot be driven.

Brake Override

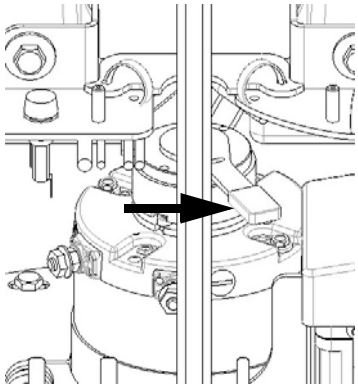
1. Disconnect battery to prevent injury.
2. Turn wheel slightly to the right.
3. Access to the Brake lever is through the access port on the front left side of the Lower Body.



4. Push the lever as indicated to disengage the brake.



5. Push the machine slowly. Take care as voltage is generated while pushing the machine and may cause the controller to temporarily stop the machine.



6. To re-engage the brake, push the lever as indicated.

Inclines

When navigating an incline the machine may come to a stop. Turn the machine off. Wait 5 minutes and start the machine and proceed up the incline.

⚠CAUTION:

Overheating may occur if you do not wait the full 5 minutes.

⚠ ATTENTION:

Une surchauffe peut se produire si vous n'attendez pas les 5 minutes complètes.

Drive Motor-Prior to Serial Number (3*)

Drive Motor Carbon Brush Replacement

⚠ CAUTION:

Do not use a pressure washer to clean around the brush motors. Use tap pressure only.

⚠ ATTENTION:

N'utilisez pas de nettoyeur haute pression pour nettoyer autour des moteurs des brosses. Utilisez seulement la pression du robinet.

FOR SAFETY: Before leaving or servicing machine, stop on a level surface, turn off machine and remove motor carbon brushes.

1. Open the console cover.
2. Tilt the rear panel back until it stops on the lanyard.
3. Grasp the lower end of the flexible steering shaft and pull it straight up until it is disengaged with the hex steering shaft.
4. Remove the cover and gasket at the steering shaft area.
5. Grasp the drive wheel by reaching under the front bumper and turn it to near the left steering stop.
6. The drive motor carbon brushes are located under screw caps. The caps are accessible by gently moving the harness aside.
7. Rotate the drive wheel to near the right hand stop to access the right side carbon brush.
8. Replace the gasket and cover, set the drive wheel straight ahead, set the steering wheel straight ahead, and gently align the steering shaft coupling and slide onto the lower shaft.
9. Slowly close the cover and make sure the shaft slides without binding.

Drive Chain Tension

The drive chain should deflect about 1/4 inch on either side of the loop when the opposite side is tight.

To adjust chain tension:

1. Remove bumper.
2. Loosen five (5) screws that hold the drive gear motor and slide the gear motor up until the chain tension is correct. Tighten the five (5) mounting screws.
3. Models equipped with jack screw on front side of drive should not use jack screw to apply tension. Use only as a stop once chain is properly tensioned.
4. Reinstall the bumper.

Transporting Machine

This machine is equipped with a drive gear engagement/disengagement lever.

The brake automatically engages and keeps the machine from moving whenever the operator stops the machine.

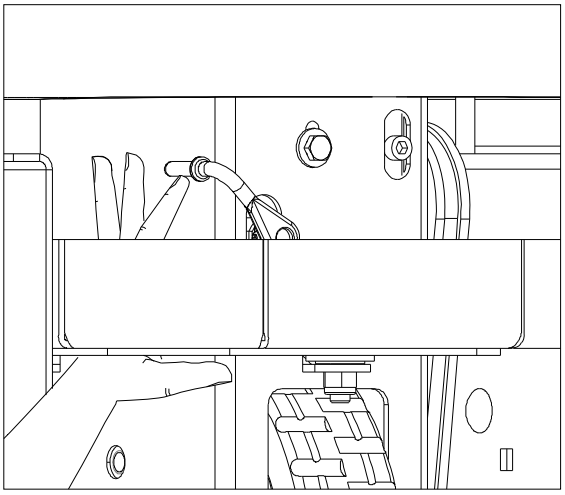
The drive gear can be disengaged so the machine can be pushed or towed (slowly).

When the drive gear is disengaged the machine cannot be driven.

NOTE: Front bumper removed for clarity and to show access to lever.

Lever access

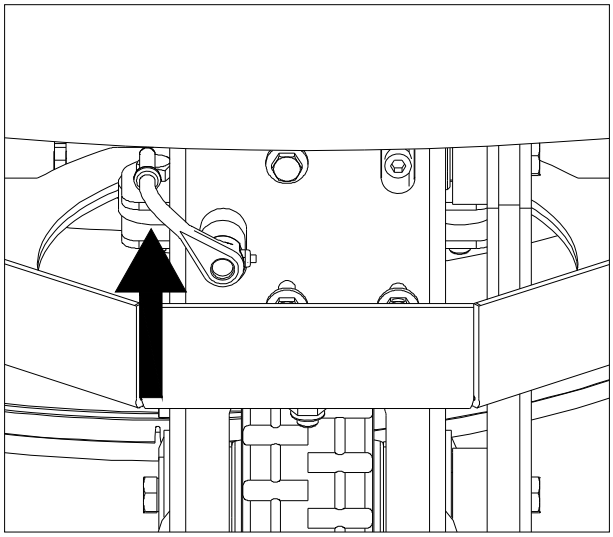
Turn wheel to left and reach up under bumper and steel brake.



Drive gear engaged

Machine can be driven.

Rotate lever firmly in direction of arrow

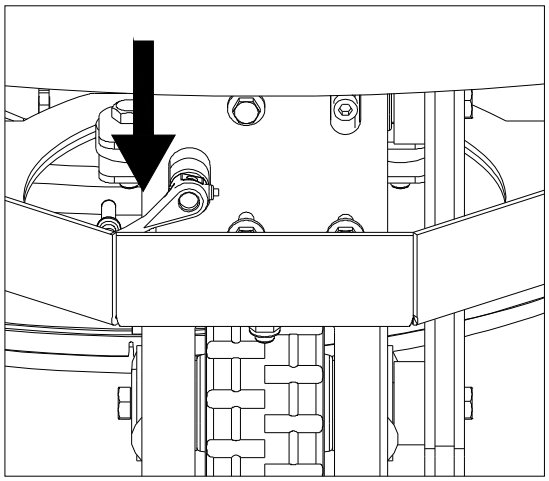


Drive gear disengaged

Machine can be pushed or towed (slowly).

When disengaged the machine rolls easily. Disengage on a level surface.

Rotate lever firmly in direction of arrow.



Inclines

When navigating an incline the machine may come to a stop. Turn the machine off. Wait 5 minutes and start the machine and proceed up the incline.

⚠CAUTION:

Overheating may occur if you do not wait the full 5 minutes.

⚠ ATTENTION:

Une surchauffe peut se produire si vous n'attendez pas les 5 minutes complètes.

Preparation for Loading/Unloading Trailer

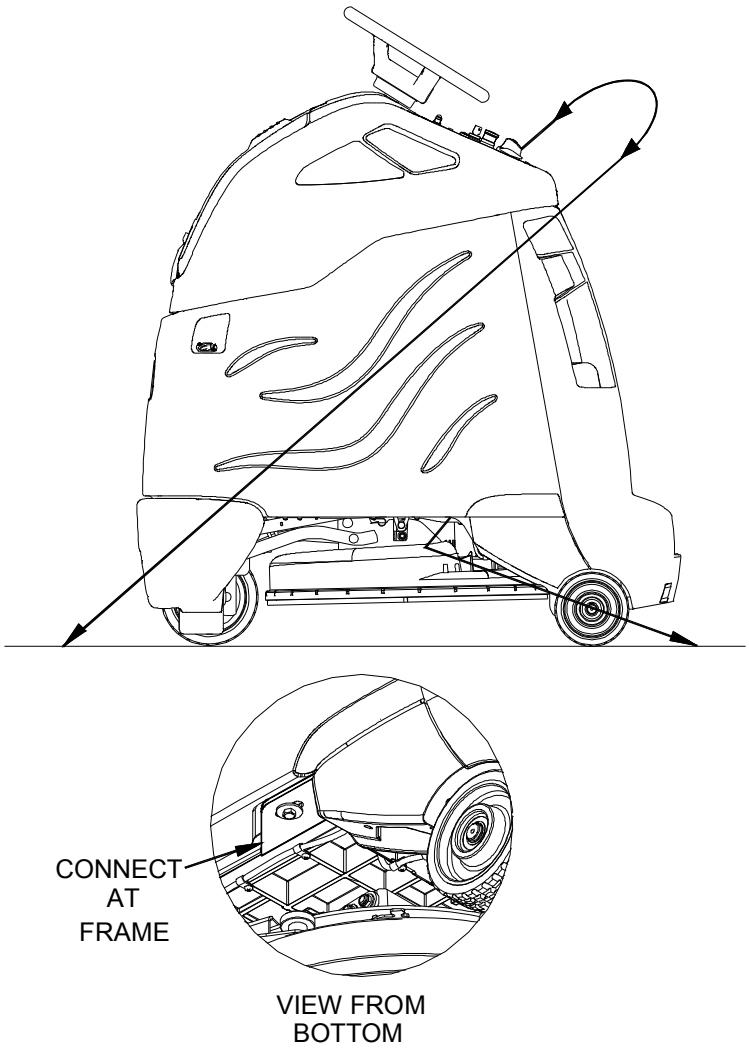
Burnisher Deck must be in the up position before loading.

When transporting the machine on a trailer or in a truck, in addition to using tie-downs, be sure to block the tires to prevent the machine from rolling.

Machine Tie-Downs

There are two tie points located in front of the rear wheels on the frame, and a Tie-down wrap point on the back panel. Tie-down devices must be of the proper type and strength. The combined strength of all tie-downs must be strong enough to lift two times the weight of the machine. Tie-downs must be positioned to prevent the machine from moving forward, backward, or either side to side. Use all four corners of the machine with the tie-downs running out opposite directions. Tie-downs must be attached to the transporting vehicle securely.

Recommended Tie-Down Points



Troubleshooting

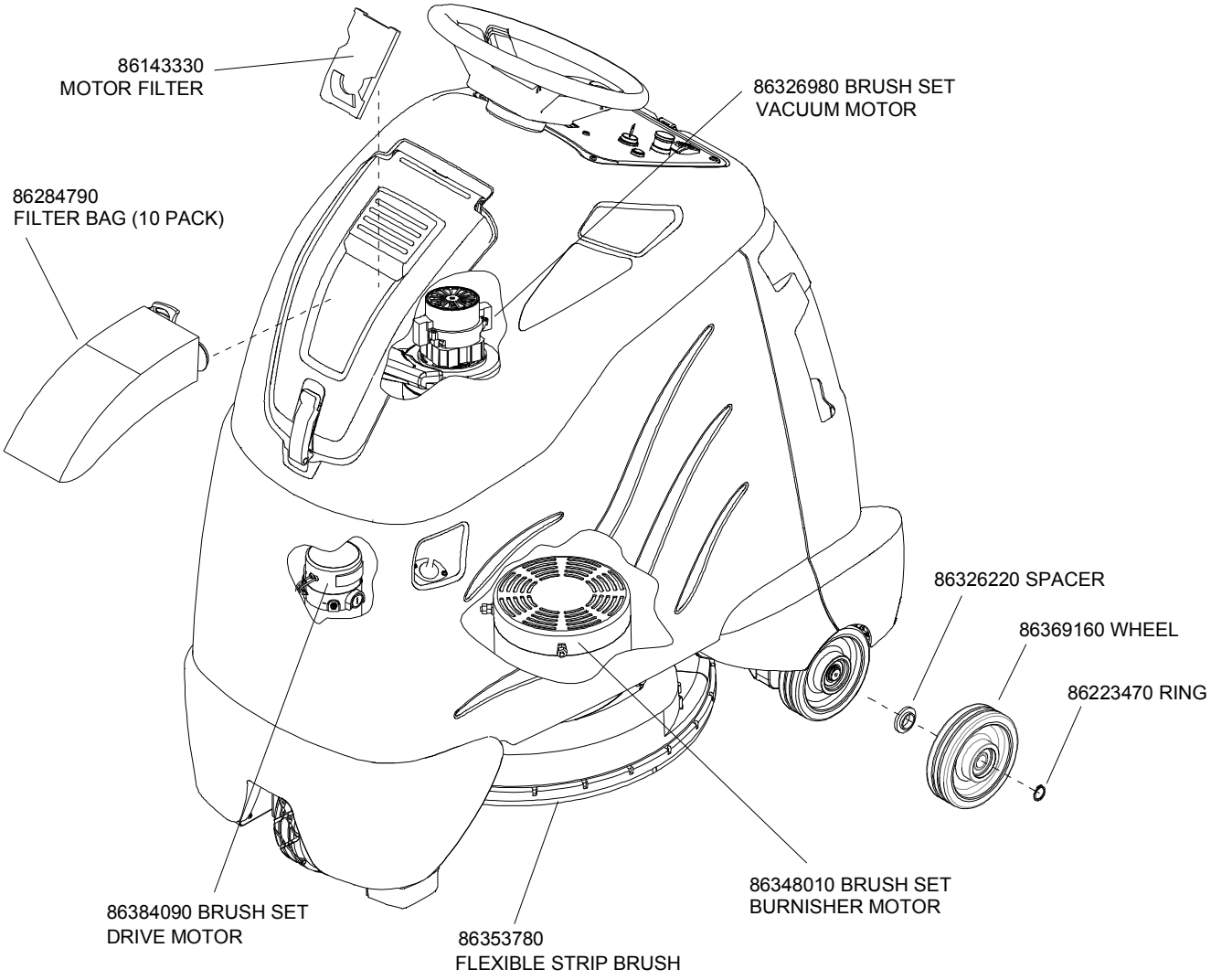
PROBLEM	CAUSE	SOLUTION
No machine function	Console lid is open	Close console lid
No power to machine	Battery disconnected	Check all battery cable connections
	Emergency shut-off activated	Reset
	Battery cables corroded	Clean connections
	Faulty key switch	Replace switch
	Batteries not plugged in	Plug batteries in
	On Board charger plugged in	Un-plug and stow cord
Little or no propel	Low battery charge	Charge batteries
	Tripped circuit breaker	Reset controller circuit breaker
	Controller protecting motor from overload	Controller limits motor amperage. Allow unit to cool down for several minutes.
	Machine is stalled against an obstacle (threshold, curb, etc.)	Remove obstacle or push machine away from obstacle
	Controller overheated	Allow cool down period
	Loose motor connection	Check wires and connections from controller to motor
	Faulty throttle circuit or potentiometer	Check wires and connections from and potentiometer resistance
	Drive Lever disengaged	Engage drive
Machine does not change speeds	Faulty speed control circuit or switch	Check wires & connections
Forward speed only Reverse speed only	Faulty forward/reverse circuit	Check wires & connections
Battery indicator light flashing	Battery needs charged	Charge Battery
	Controller is indicating a fault code	See fault code table

PROBLEM	CAUSE	SOLUTION
Vacuum motor does not run, or runs slowly	Faulty vacuum circuit or switch	Check wires & connections
	Worn vacuum motor brushes	Replace brushes, check commutator
	Vacuum circuit breaker tripped	Reset circuit breaker
Poor burnishing performance	Debris caught in pad	Remove debris or change pad
	Worn pad	Replace pad or flip pad
	Improper pad used	Contact equipment or application specialists
	Low battery charge	Charge batteries
Burnisher motor does not run, or runs slowly	Circuit breaker tripped	Reset circuit beaker
	Low battery charge	Charge battery
	Faulty brush circuit or motor	Check wires, connections and motor
	Worn brush motor brushes	Replace brushes, check commutator
Deck does not go down	Actuator circuit breaker tripped	Reset actuator circuit breaker

Battery Discharge Indicator Troubleshooting

The battery indicator flashes when a problem occurs. The table below list solutions for the indicated problems.

Number of flashes	Problem	Solution
1	The battery needs charging, there is a bad connection to the battery or dependent on the programming, may indicate that the battery lockout function is active and the controller is in a restricted mode of operation. Check the connections to the battery.	If the connections are good, try charging the battery.
2	There is a bad connection to the drive motor.	Check all connections between the motor and the controller.
3	The drive motor has a short circuit to a battery connection.	Contact your service agent.
4	The battery charge level has fallen below the battery Lockout Level and the controller is inhibiting burnisher motor function.	Charge the battery.
5	Not used.	-
6	The controller is being inhibited from driving, this may be because the battery charger is connected (on board charger only).	Disconnect battery charger.
7	A throttle fault is indicated.	Make sure that the throttle is in the rest position before switching on the machine.
8	A controller fault is indicated.	Make sure that all connections are secure.
9	The parking brake has a bad connection.	Check the parking brake and motor connections. Make sure the controller connections are secure.
10	An excessive voltage has been applied to the controller. This is usually caused by a poor battery connection.	Check the battery connections.
-	Blinks once every 5 seconds	Sleep mode, cycle key switch


86143330
MOTOR FILTER
86326980 BRUSH SET
VACUUM MOTOR
86284790
FILTER BAG (10 PACK)
86326220 SPACER
86369160 WHEEL
86223470 RING
86348010 BRUSH SET
BURNISHER MOTOR
86384090 BRUSH SET
DRIVE MOTOR
86353780
FLEXIBLE STRIP BRUSH

Spare Parts List

Chariot 2 iGloss 20

CBPS20
1.002-031.0

CBPSC20
1.002-032.0

CBPL20
1.002-033.0

CBPLC20
1.002-034.0

CBAL20
1.002-035.0

CBALC20
1.002-036.0

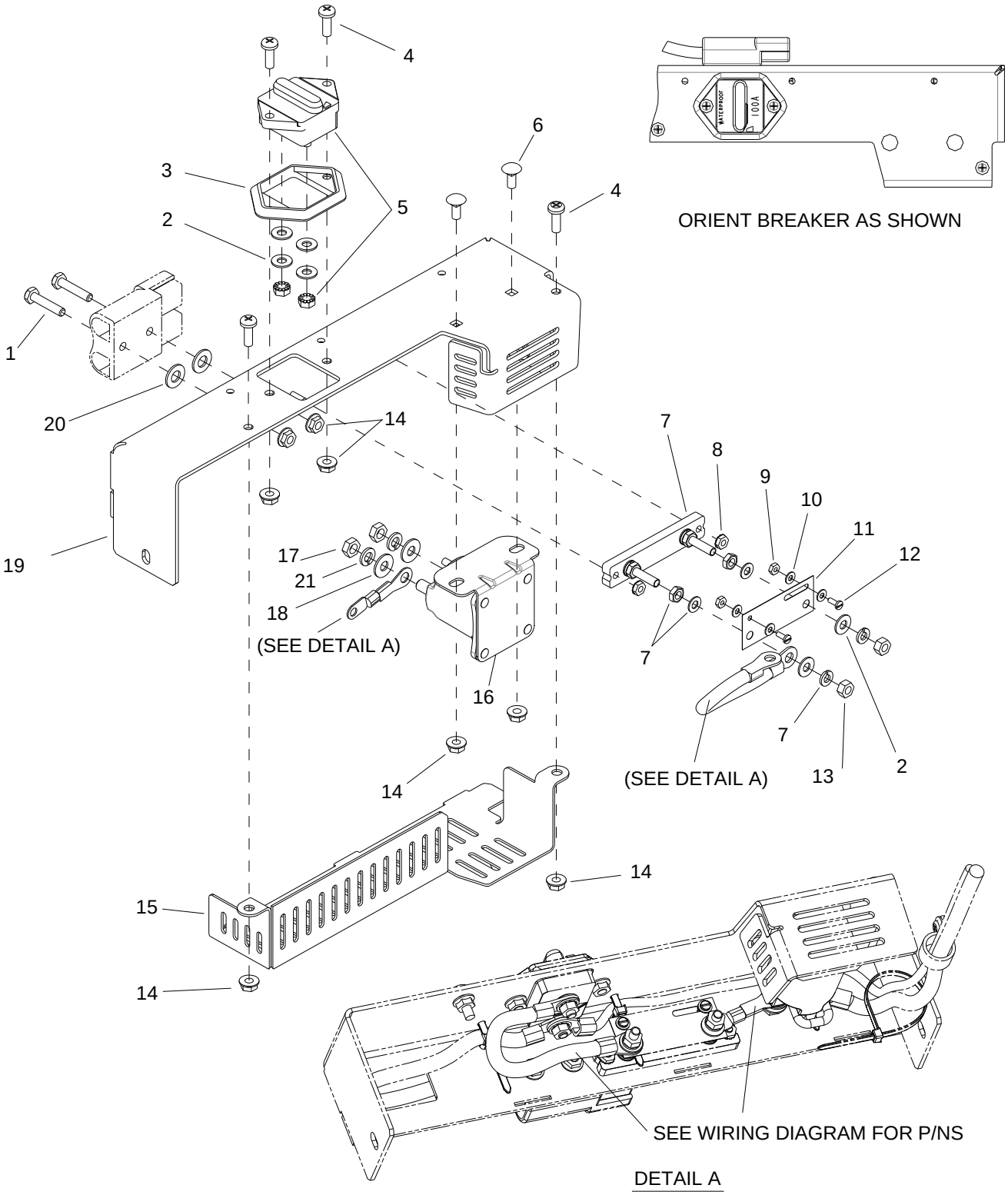
From Serial Number (Ref No. 1*)

86398810-V 06/10/17

The PARTS LIST section contains assembled parts illustrations and corresponding parts list. The parts lists include a number of columns of information:

- REF - column refers to the reference number on the parts illustration.
- PART NO. - column lists the part number for the part..
- QTY - column lists the quantity of the part used in that area of the machine.
- DESCRIPTION - column is a brief description of the part.
- SERIAL NO. FROM - If this column has an (*) and a Reference number, see the SERIAL NUMBERS page in the back of your manual. If column has two asterisk (**), call manufacturer for serial number. The serial number indicates the first machine the part number is applicable to. The main illustration shows the most current design of the machine. When a boxed illustration is shown, it displays the older design.
- NOTES - column for information not noted by the other columns.

NOTE: *If a service or option kit is installed on your machine, be sure to keep the KIT INSTRUCTIONS which came with the kit. It contains replacement parts numbers needed for ordering future parts.*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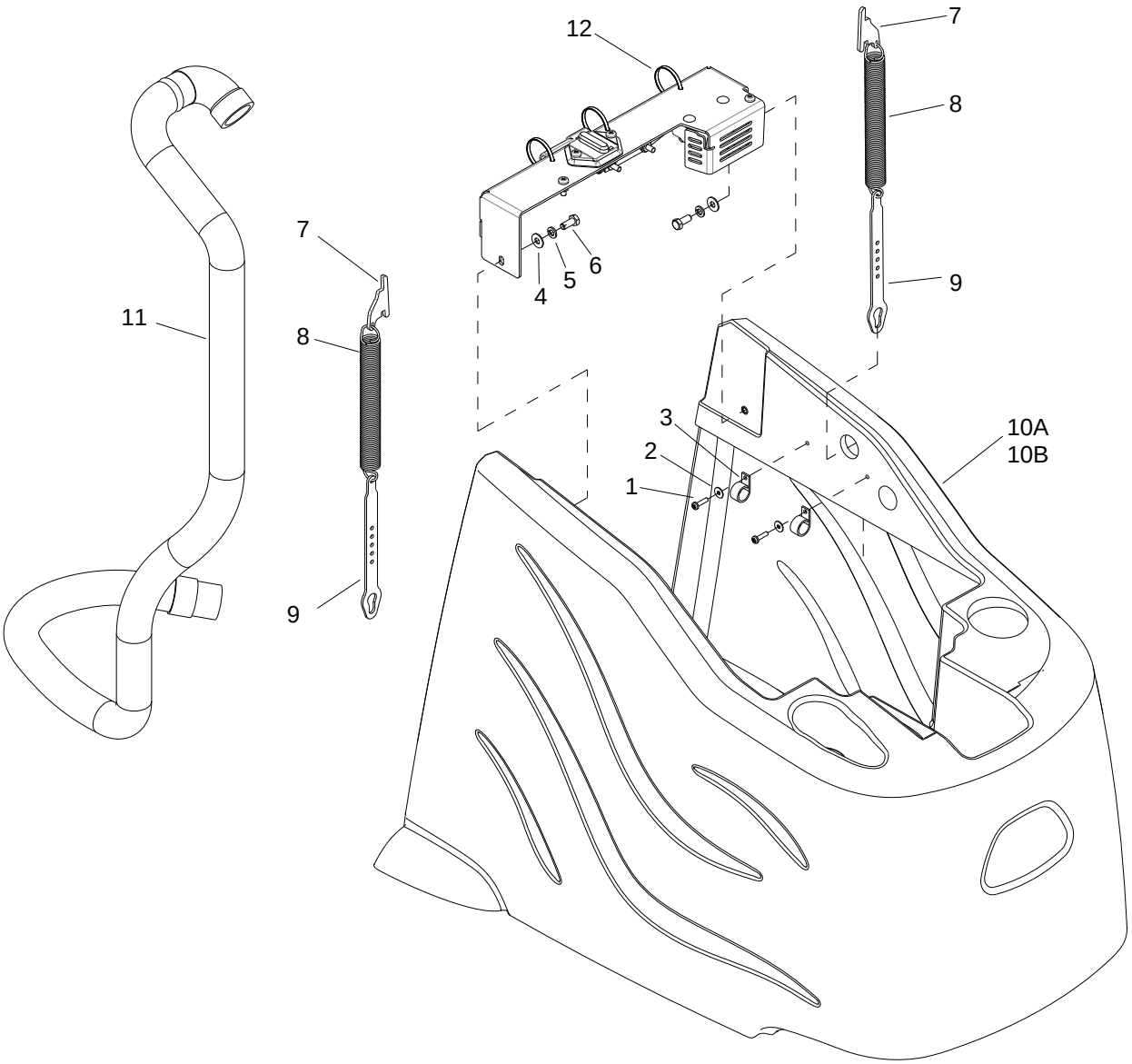
ORIENT BREAKER AS SHOWN
SEE WIRING DIAGRAM FOR P/NS
DETAIL A

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86273820	2	SCREW 1/4-20 X 1.25 HHCS SS		
2	86010630	6	WASHER 1/4 ID X 5/8 OD SS		
3	86340020	1	COVER, PANEL MNT BREAKER		
4	86275120	4	SCR, 1/4-20 X.75 PPHMS PHIL		
5	86340030	1	BREAKER, 100A CIRCUIT		
6	86277500	2	SCR,1/4-20 X 5/8 CARR SS		
7	86229770	1	BLOCK, SHUNT MOUNT		
8	86005700	2	NUT 10-32 W/STAR WASHER PLTD		
9	86271790	2	NUT, 6-32 HEX BRASS		
10	86279600	4	WASHER, #6 FLAT BRASS		
11	86253600	1	SHUNT, 50MV 70AMP		
12	86276250	2	SCR, 6-32 X 3/8 SRHMS BR		
13	86270770	2	NUT, 1/4-20 HEX		
14	86271370	8	NUT, 1/4-20 FLANGE LOCK		
15	86353270	1	BRACKET, CONTACTOR COVER		
16	86371450	1	RELAY 36VDC 100A HD		
17	86271120	2	NUT, 5/16-18 BRASS		
18	86010670	2	WASHER, 5/16 FLAT SS		
19	86353260	1	BRACKET, SOL TANK BRACE		
20	86010680	2	WASHER 3/8 ID X 3/4 OD NYLON		
21	86279130	2	WASHER, 5/16 X .583 X .078 SPL STL ZNPLT		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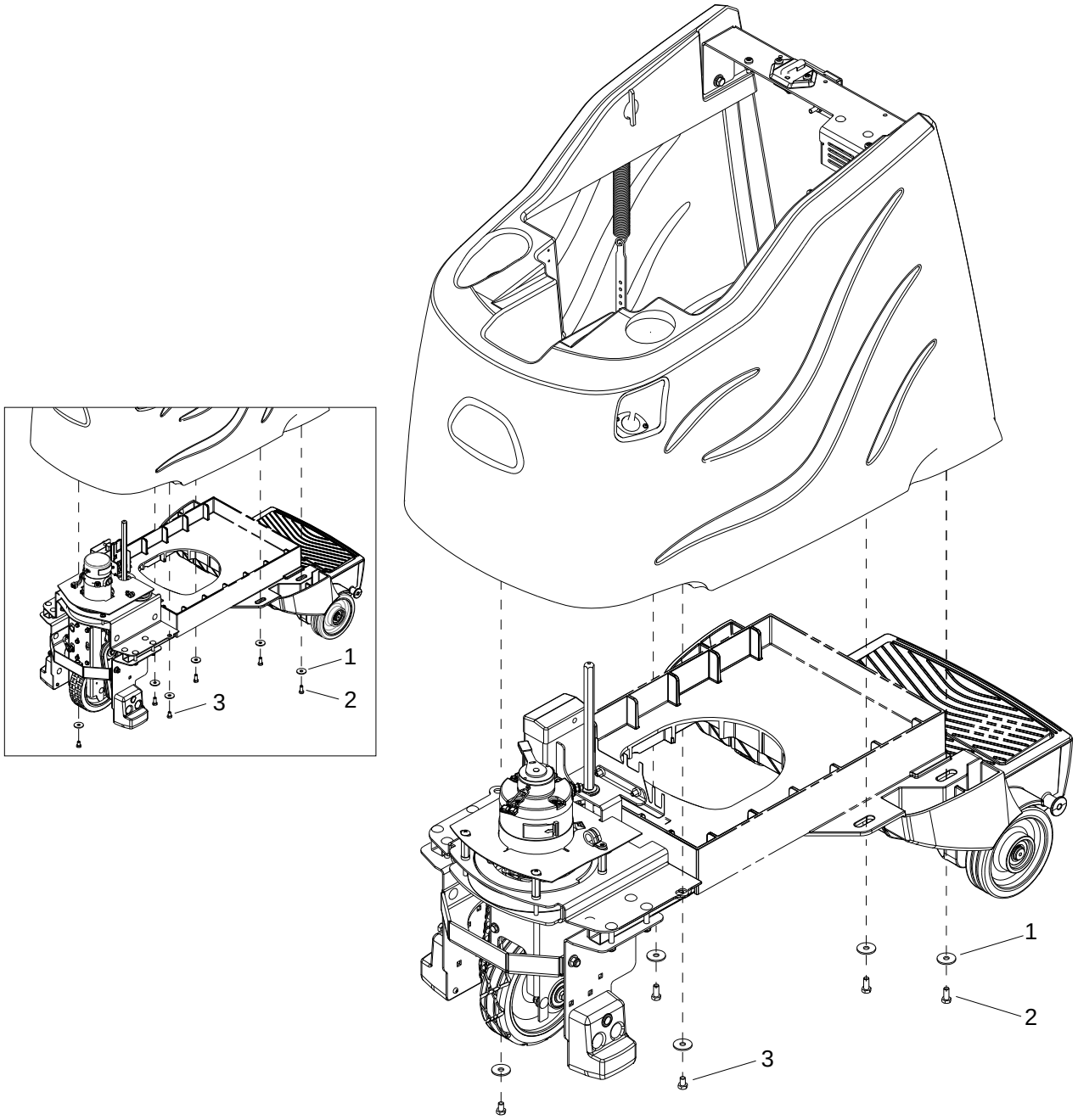
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86273980	2	SCREW 10-32 X 3/4 PPHMS SS		
2	86010650	2	SP WASHER #10 X 9/16 OD		
3	86354990	2	CLAMP, .75 DIA, FLEX LOOP, NYLON		
4	86010670	2	WASHER 5/16 FLAT SS		
5	86279130	4	WASHER 5/16 SPLIT LOCK PLTD		
6	86276780	2	SCR, 5/16-18 X 3/4 HHCS SS		
7	86354570	2	BRACKET, SPRING, UPPER		
8	86353220	2	SPRING, EXTENSION		
9	86353720	2	BRACKET, SPRING, LOWER		
10A	86368410	1	MAIN BODY		
10B	86377700	1	MAIN BODY, NO OBC, GRAY, TRIM		SHELF CHARGER MODELS ONLY, 1.002-033.0 1.002-035.0
11	86353280	1	HOSE 1.5" X 49", 4:1 STRETCH		
12	86264940	3	CABLE TIE 11.38" UL/CSA		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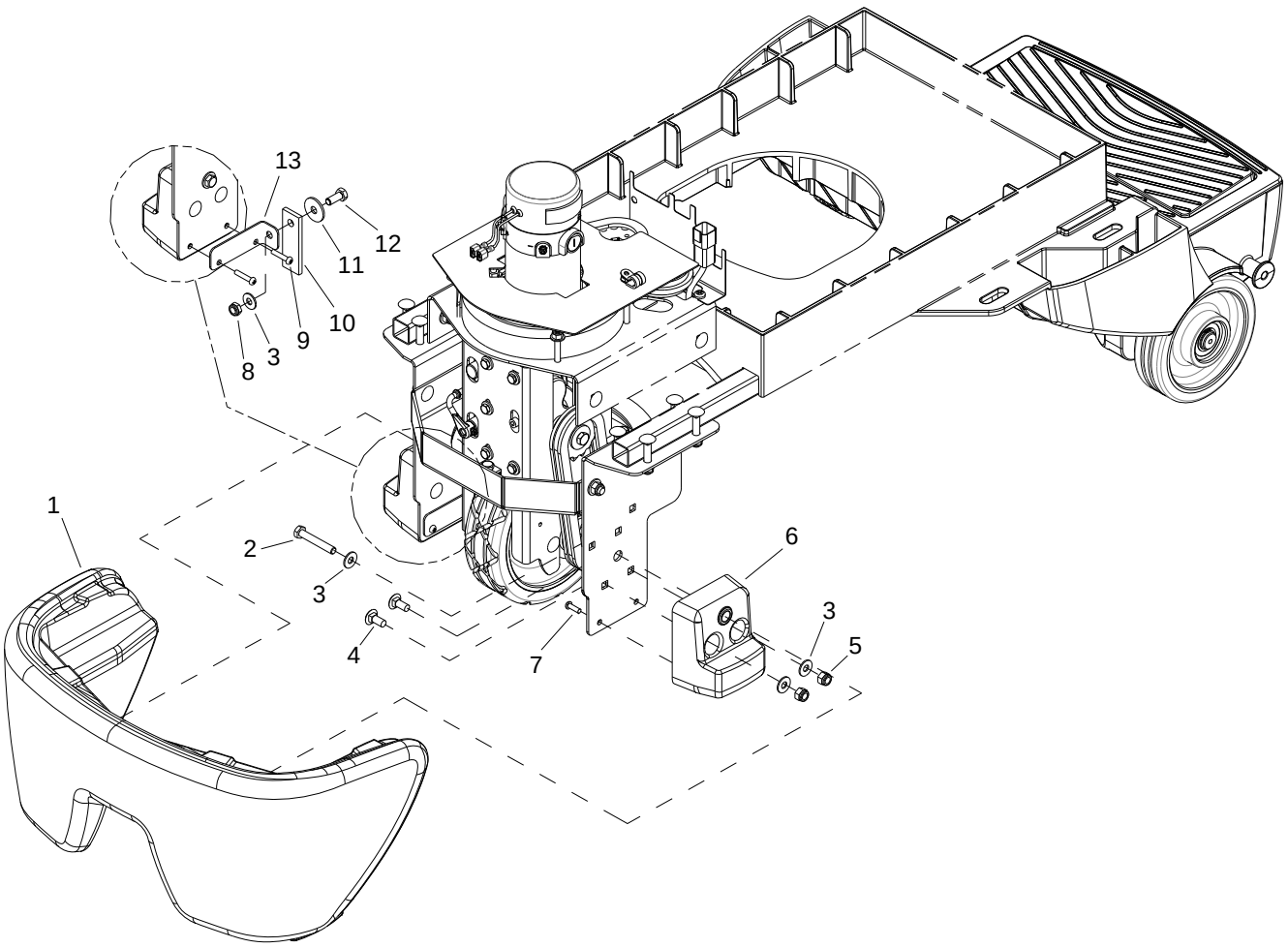
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86279630	5	WASHER, .344IDX1.13ODX.09T PLT	(3*)	QTY WAS 6
2	86006760	3	SCREW 5/16-18 X 3/4HHCSGR5PLTDL	(3*)	QTY WAS 4
3	86275180	2	SCR, 5/16-18 X 1/2 HHCS GR5 NP		

*See Serial Number Page.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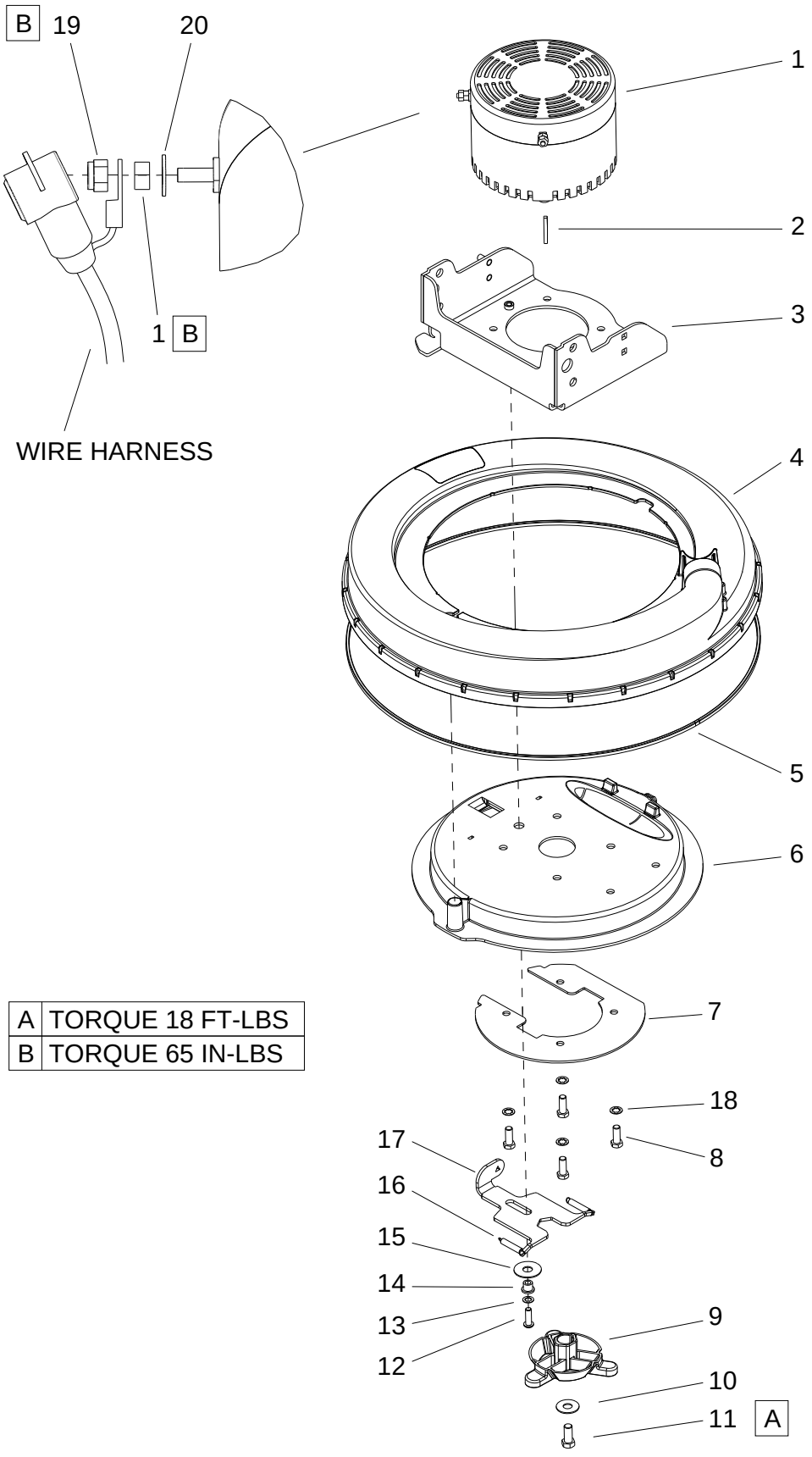
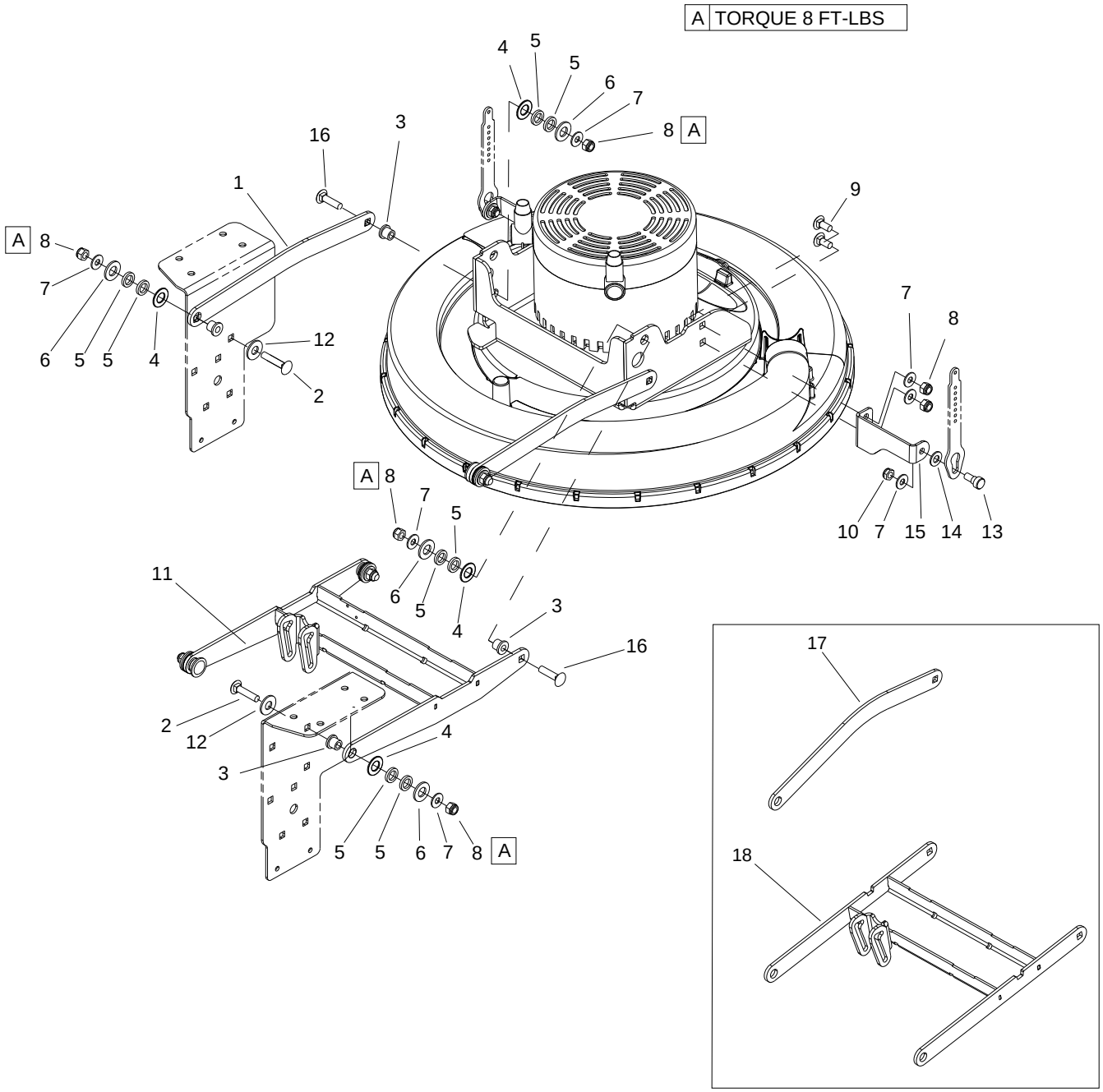
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86366820	1	BUMPER, TRIM, BLACK		
2	86276980	2	SCREW 5/16-18 X 2 HHCS SS		
3	86010670	7	WASHER 5/16 FLAT SS		
4	86276070	4	SCR, 5/16-18 X 3/4 CARRIAGE SS		
5	86270830	4	NUT 5/16-18 HEX NYLOCK SS		
6	86323950	2	PAD, TIP		
7	86327510	2	SCR, KA50X16, PT OHS, WN1412, A2 SS		
8	86271840	1	SP NUT 5/16-18 HEX NYLOCK THIN SS		
9	86327910	2	SCR, KA50X25, PT OHS, WN1412, PLTD		
10	86256130	1	STRAP, STATIC, .2T X 1W X 3L		
11	86279630	1	WASHER, .344IDX1.13ODX.09T PLT		
12	86006760	1	SCREW 5/16-18 X 3/4HHCSGR5PLTDL		
13	86359510	1	BRKT, STATIC STRAP		



A	TORQUE 18 FT-LBS
B	TORQUE 65 IN-LBS

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86354980	1	MOTOR, 36VDC 3 HP 2000RPM		
-	86348010	1	BRUSH SET, BURNISHER MOTOR		
2	86286850	1	KEY, 3/16 SQ X 1.5” LONG		
3	86353470	1	BRACKET, MOTOR LIFT		
4	86352910	1	SHROUD, OUTER		
5	86353780	1	BRUSH, FLEXIBLE STRIP, 72" LONG		
6	86352900	1	SHROUD, INNER		
7	86353750	1	PLATE, SUPPORT, INNER SHROUD		
8	86276920	4	SCREW 3/8-16x1		
9	86372140	1	HUB, PAD DRIVER		
10	86010710	1	WASHER .5 X 1.25 FLAT GR8 PLT		
11	86277540	1	SCREW 7/16-20 X 1 HHCS PLTD		
12	86006930	1	SCREW 5/16-18 X 1.00 BSHCS SS		
13	86330990	1	WASHER, 5/16 INT STAR, SS		
14	86228840	1	BEARING FLANGED.314IDX.502OD		
15	86279030	1	WASHER, .53 ID X 1.5 OD TEFLON		
16	86007910	2	SPRING EXT .31D X 2.0L X .03W		
17	86353760	1	BRACKET, MOTOR LOCK		
18	86279110	4	WASHER, 3/8 ID INT.LOCK		
19	86271910	2	NUT, 5/16-18 FLEXLOCK		
20	86010670	2	WASHER 5/16 FLAT SS		


A TORQUE 8 FT-LBS
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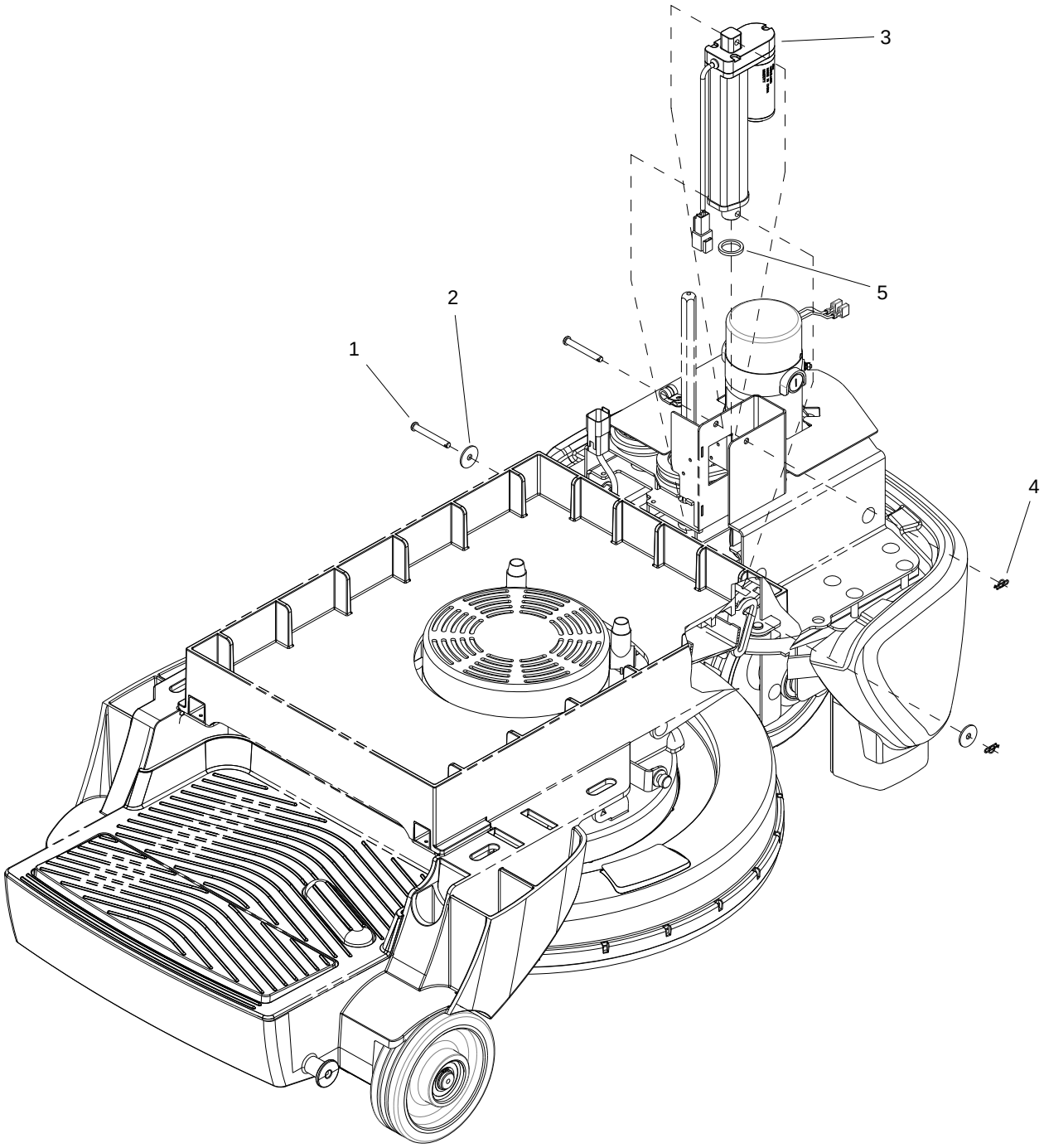
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86388520	2	DECK LINKAGE ARM	(5*)	
2	86277470	4	SCREW, 5/16-18 X 1.5 CARR SS		
3	86228840	8	BEARING FLANGED.314IDX.502OD		
4	86259410	8	WASHER THRUST.51 ID X1ODX.063		
5	86279350	16	WASHER, WAVE 1/2ID X3/4D X.125		
6	86259420	8	WASHER, THRUST .51ID X 1 ODBRO		
7	86010670	14	WASHER 5/16 FLAT SS		
8	86270830	12	NUT 5/16-18 HEX NYLOCK SS		
9	86276070	2	SCR, 5/16-18 X 3/4 CARRIAGE SS		
10	86271840	2	SP NUT 5/16-18 HEX NYLOCK THIN SS		
11	86388500	1	TOP LINK ASSY	(5*)	
12	86010770	4	WASHER 7/16ID X1DX.08 FLT SS		
13	86353810	2	BOLT SHOULDER, 3/8 OD X 1/4 L SS		
14	86010680	2	WASHER 3/8 ID X 3/4 OD NYLON		
15	86353800	2	BRACKET, SPRING LIFT		
16	86277030	4	SCREW, 5/16-18 X 1.25 CARR SS		
17	86353790	2	BRACKET, LINKAGE ARM		
18	86353740	1	BRACKET, LIFT ASSY, TOP		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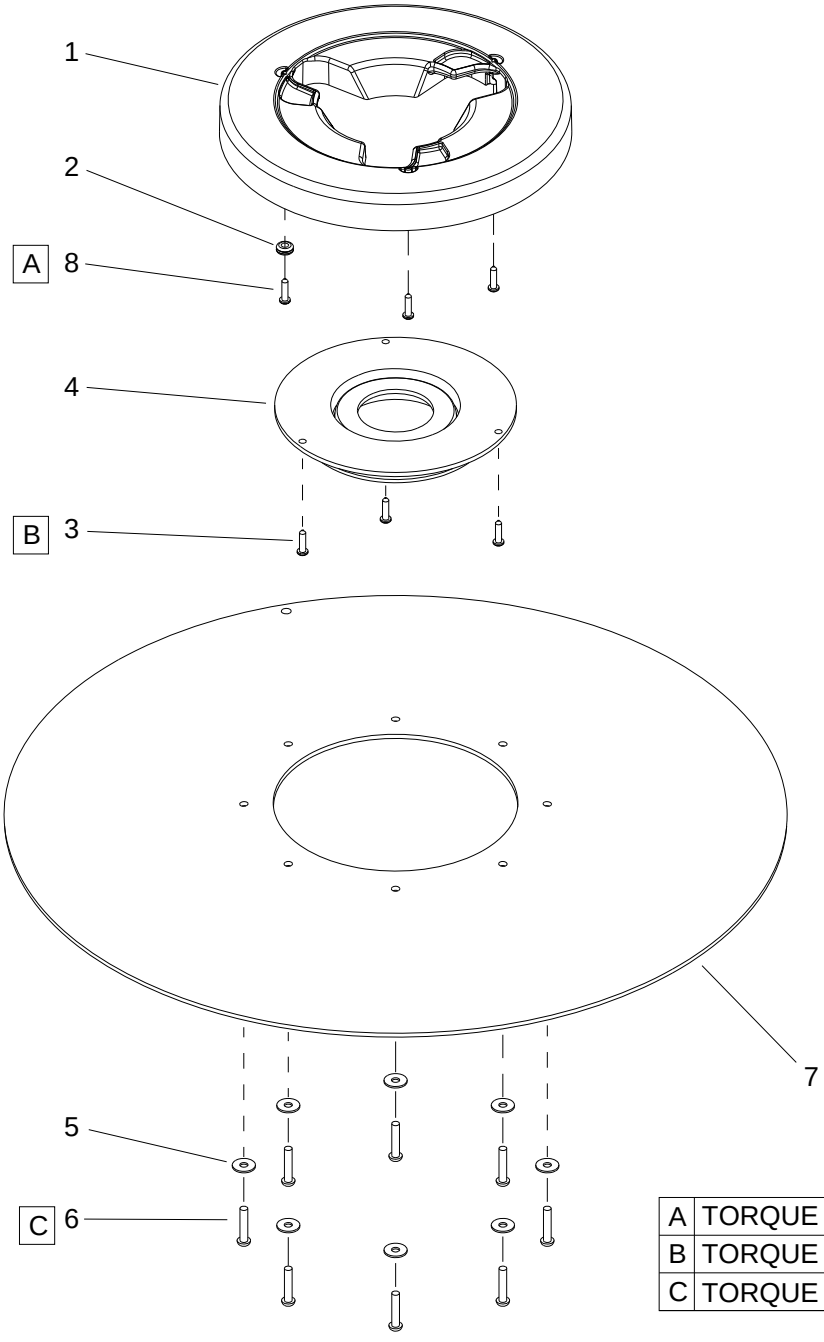
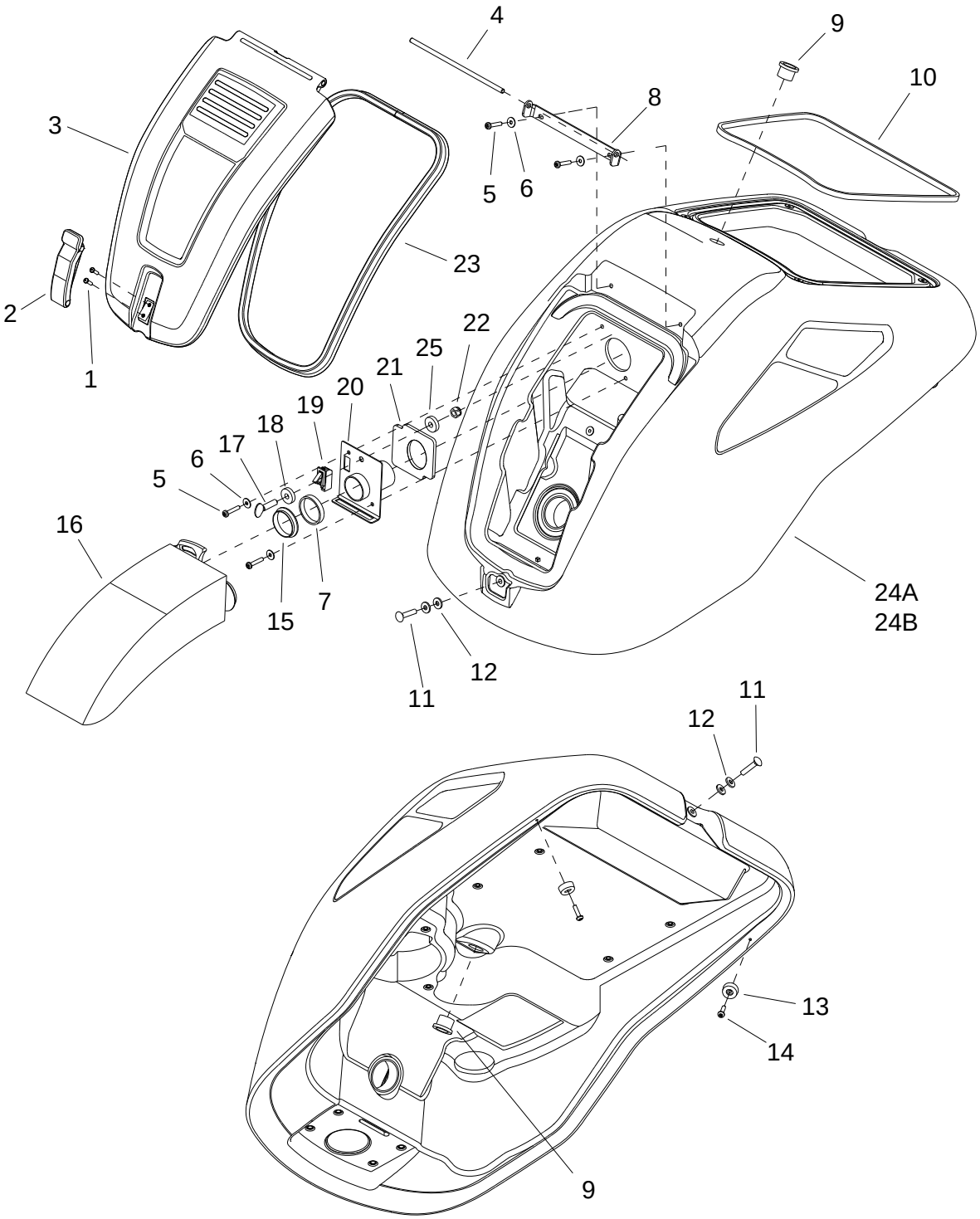
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86328040	2	PIN, CLEVIS, 1/4 X 2.0 L		
2	86354750	2	WASHER, 1.00X.264X.070THK, NYL, BLK		
3	86320880	1	ACT, 36VDC, 3.0" STK, 8.74 LNG		
4	86008650	2	COTTER 1/4" RING		
5	86342240	1	SPACER, .81 X 1.06 X .125		



A	TORQUE 6 IN-LBS
B	TORQUE 20-22 IN-LBS
C	TORQUE 34-36 IN-LBS

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86352460	1	HUB, PAD DRIVER		
2	86355650	1	GROMMET, .188ID x .438OD x .188T		
3	86173140	3	SCR, KA40X16,PT OVAL,WN1412,PL		
4	86355620	1	RETAINER, PAD CENTER LOCK		
5	86173330	8	WASHER, M5, FLAT, ISO7093, SS		
6	86327910	8	SCR, KA50X25, PT OHS, WN1412, PLTD		
7	86355610	1	PAD DRIVER, FACE 20"		
8	86351660	3	SCREW, 6-19 X .5 PHPNH HL STL ZNPLT		
-	86358450	-	ASM, PAD DRIVER iGLOSS 20		NOT SHOWN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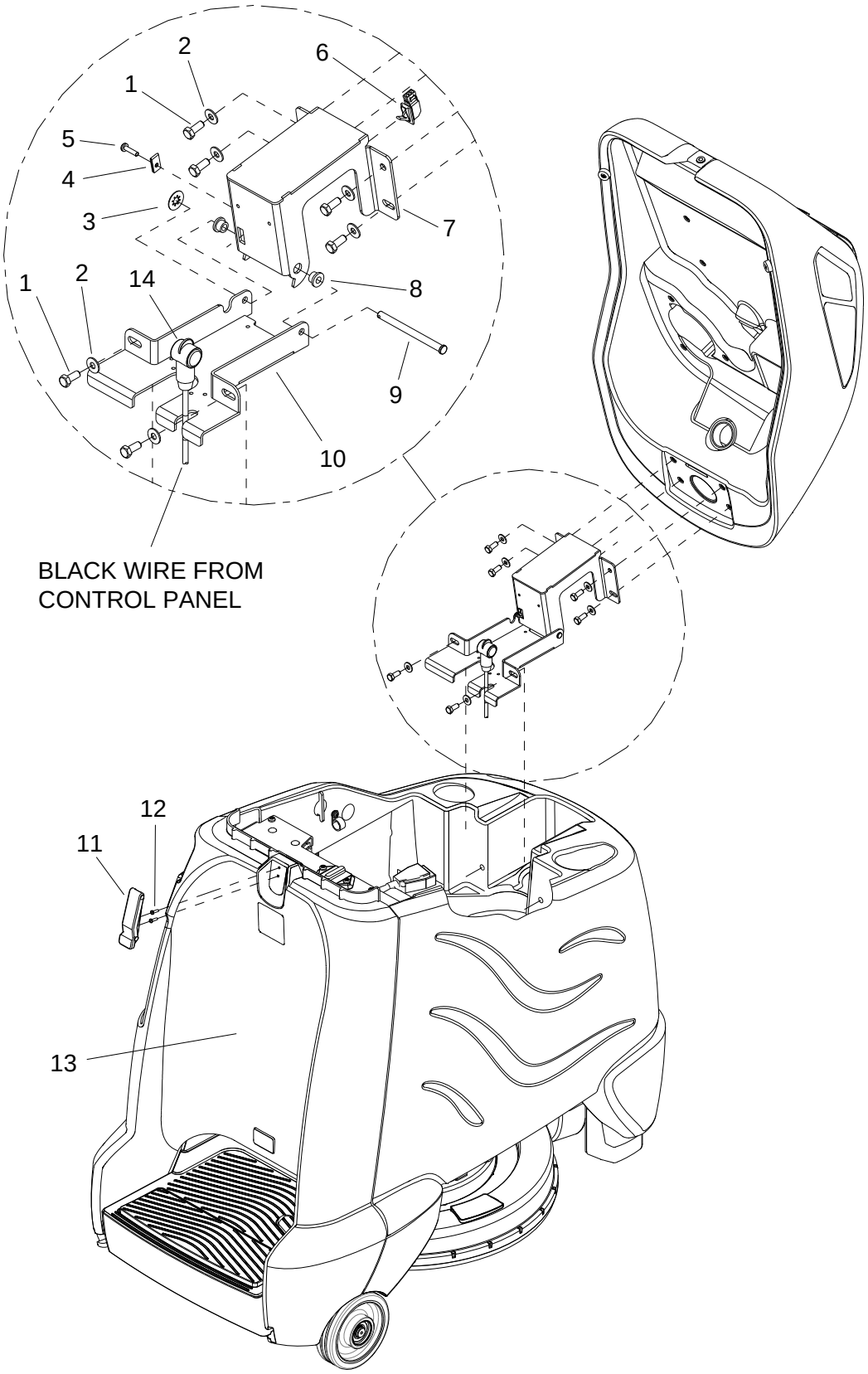
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86173140	2	SCR, KA40X16,PT OVAL,WN1412,PL		
2	86161800	1	CATCH CONCEALED KEEPER		
3	86368430	1	COVER, BAG ENCL, BLK		
4	86353650	1	SHAFT, .25 X 7.3, SS		
5	86275810	4	SCR, 10-32 X 1 PPHMS BLK		
6	86010650	4	SP WASHER #10 X 9/16 OD		
7	86359260	1	WASHER, 1.5 ID X 1.7 PD X .19, RUBBER		
8	86353170	1	BRKT, HINGE		
9	86228790	2	BEARING FLANGE .88ODX.75IDX.75		
10	86327830	1	GASKET,.188X.31X41.0		
11	86276330	2	SCR, 1/4-20 X 1.25 CARRIAGE BZ		
12	86279520	4	WASHER, 1/4 ID FLAT BLK		
13	86356130	2	BUMPER, 7/8OD X 13/32H, RUBBER		
14	86006600	2	SCREW #10 X 3/4 PPHST TYPE B SS		
15	86354640	1	WASHER, 1.5ID SINK, RUBBER		
16	86284790	1	FILTER BAG (10 PACK)		
17	86007040	1	SCREW 5/16-18X1 THUMB SS TYPE P		
18	86356820	1	WASHER, .315ID X .89OD X .215, NYL		
19	86327680	1	SWITCH, INTERLOCK		
20	86354590	1	BRACKET, BAG MOUNT		
21	86354630	1	GASKET, BAG MOUNT		
22	86271840	1	SP NUT 5/16-18 HEX NYLOCK THIN SS		
23	86353660	1	GASKET, BAG COVER, 43.6"		
24A	86366800	1	CONSOLE, iGLOSS 20 TRIMMED GRAY		ACTIVE DUST CONTROL
24B	86399500	1	CONSOLE, PASSIVE, TRIMMED		PASSIVE DUST CONTROL
25	86008320	1	SPACER, .314 X .59 X .36 NYLON		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BLACK WIRE FROM
CONTROL PANEL
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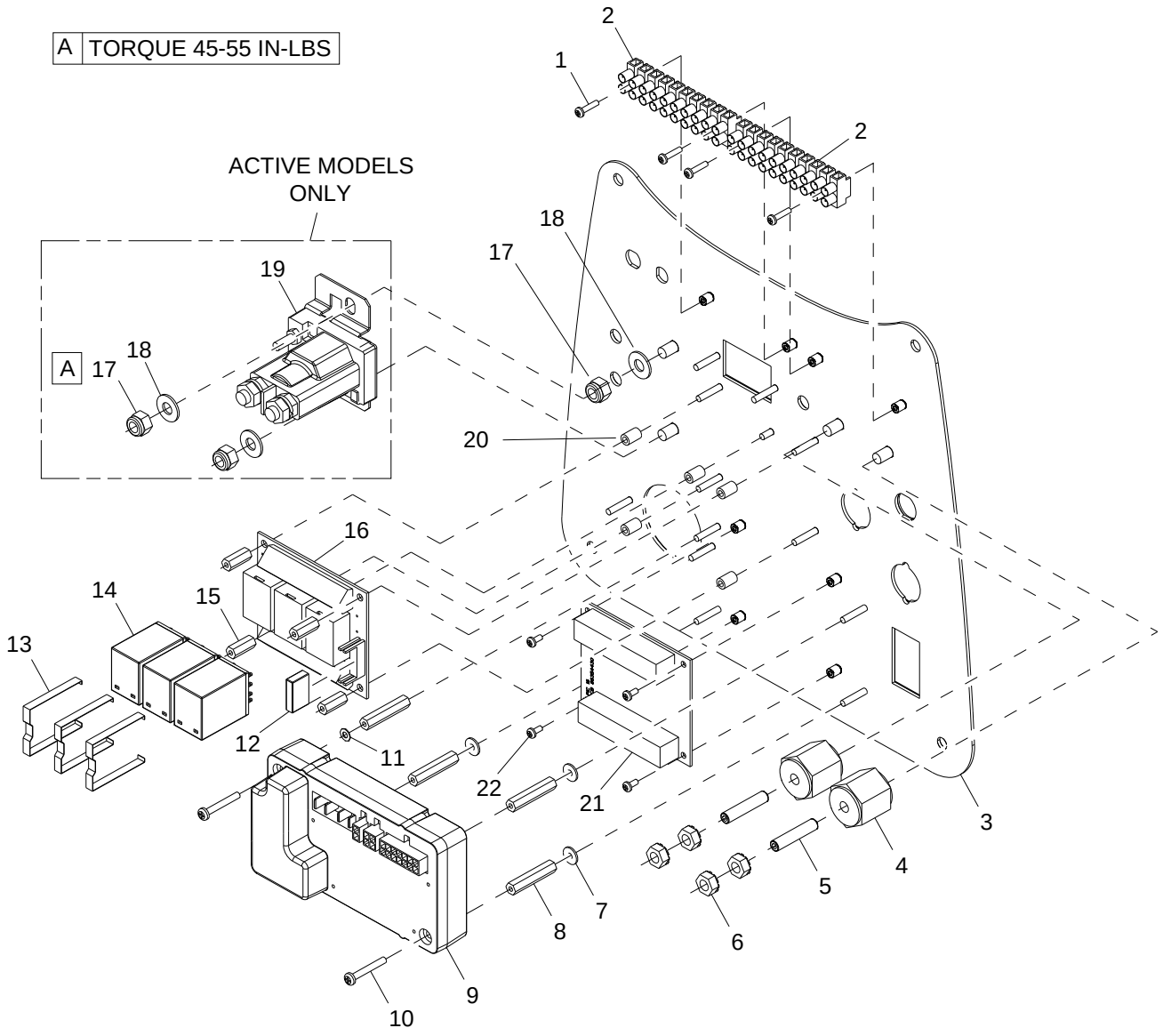
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86276780	6	SCR, 5/16-18 X 3/4 HHCS SS		
2	86010670	6	WASHER 5/16 FLAT SS		
3	86328860	1	NUT, 5/16 PUSH-LOCK, PLTD		
4	86270860	1	NUT, 10-24 U-TYPE SPEED		
5	86277110	1	SCR, 10-24 X 3/4 PPHMS SS		
6	86327680	1	SWITCH, INTERLOCK		
7	86326320	1	BRACKET, HINGE UPPER		
8	86228990	2	BEARING,FLNGD,.314ID X.502OD		
9	86326340	1	PIN, CLEVIS 5/16 X 4.0, PLTD		
10	86355010	1	BRACKET, HINGE LOWER		
11	86161800	1	CATCH CONCEALED KEEPER		
12	86173140	2	SCR, KA40X16,PT OVAL,WN1412,PL		
13	86368360	1	PANEL, BACK TRIMMED, BLK		
14	86008920	1	BOOT, RUBBER TERM. ISOLATOR		


A TORQUE 45-55 IN-LBS
ACTIVE MODELS ONLY
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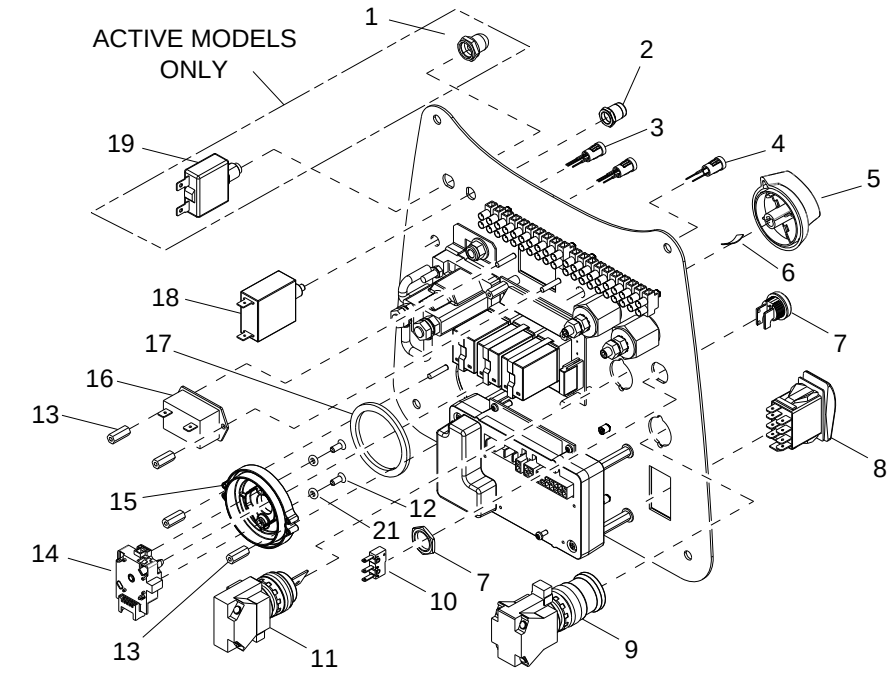
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86275260	4	SCR, 4-40 X 1/2 PPHMS		
2	86326390	2	CONN, 8MM PITCH, 10 POSN		
3	86352490	1	PANEL, CONTROL iGLOSS 20		
4	86255910	2	STANDOFF, 1/4-20 X 1.0 HEX INS		
5	86006850	1	SCR, 1/4-20 X 1.25 SSSCU		
6	86005710	4	NUT, 1/4-20 HEX W/STAR		
7	86279450	3	WASHER, #6 FLAT SAE PLTD		
8	86354860	4	STANDOFF, 6-32 X 1.25L, NYL		
9	86385970	1	CONTROLLER C2B		FROM SN (3*)
-	86356320	1	CONTROLLER, iGLOSS 20		PRIOR TO SN (3*)
10	86275550	2	SCREW 6-32 X 1.25		
11	86279020	1	WASHER #6 LOCK EXT STAR SS		
12	86336110	1	RELAY, SPST-NO		
13	86336100	3	CLIP, RELAY		
14	86313900	3	RELAY, 5A, 24V, 4PDT		
15	86255900	4	STANDOFF, 6-32 X 5/8 HEX NYL		
16	86347250	1	PCBA, RELAY OMRON II		
17	86005810	-	NUT, 1/4-20 HEX NYLOCK SS		ACTIVE MODEL QTY 2 PASSIVE MODEL QTY 1
18	86010630	-	WASHER, 1/4 X 5/8 FLAT SS		ACTIVE MODEL QTY 2 PASSIVE MODEL QTY 1
19	86251360	1	RELAY, 36VDC, 100A		ACTIVE MODEL ONLY
20	86337210	5	SPACER, .14ID X .25OD X .38, NYL		
21	86354430	1	PCB, ROTARY SWITCH		
22	86274570	4	SCR, 4-40 X 1/4 PPHMS		

*See Serial Number Page.


ACTIVE MODELS
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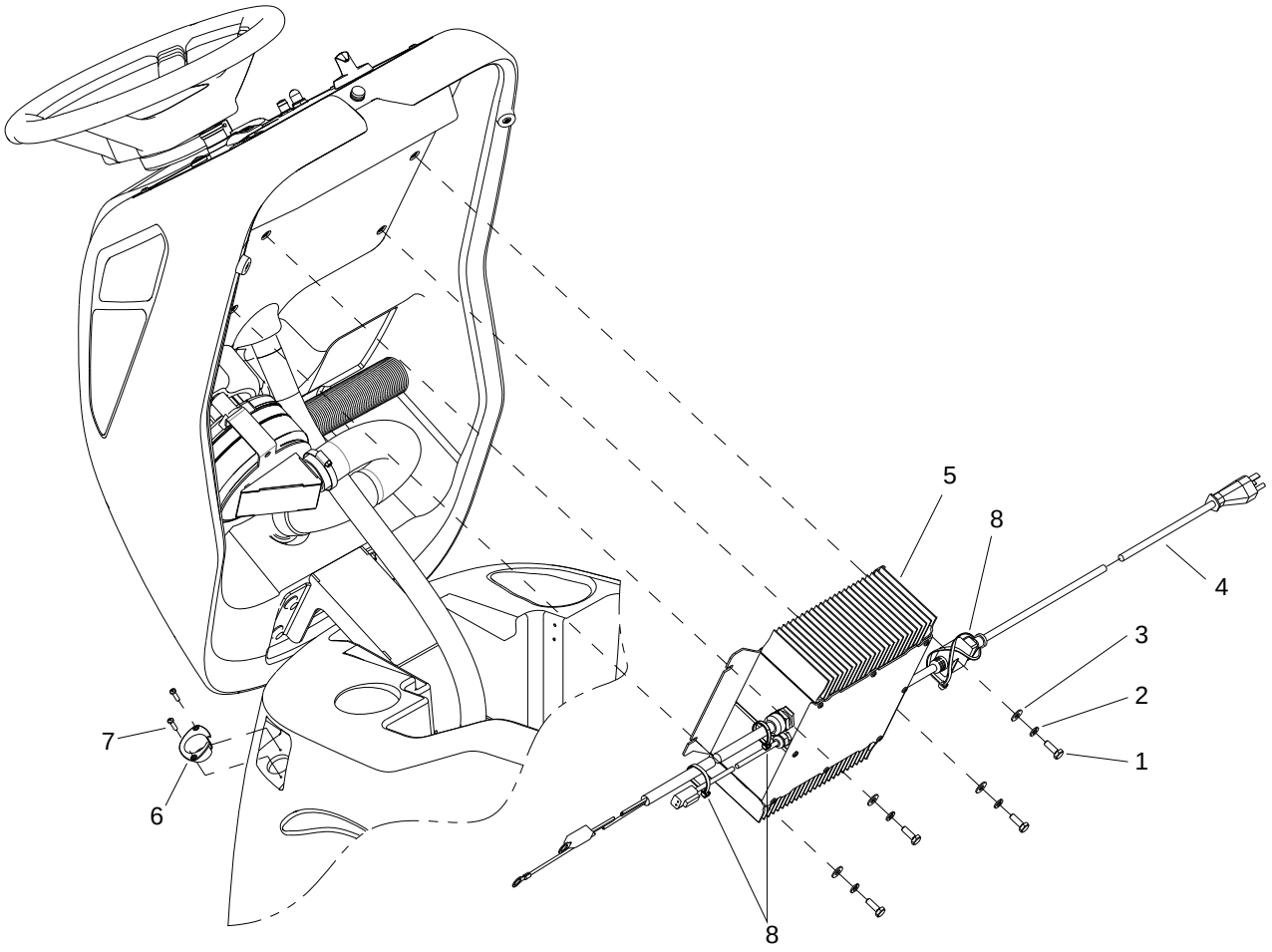
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86332510	1	BOOT, SEAL PUSH BUTTON 11MM		ACTIVE MODEL ONLY
2	86001260	1	BOOT, CB 3/8-32 UNS		
3	86348640	2	LED, BAG FULL INDICATOR		
4	86348960	1	LED, BATTERY INDICATOR		
5	53217380	1	KNOB, SELECTION		
6	63130140	1	SPRING ELEMENT		
7	86295200	1	ASM, BUTTON, BLACK, W/BEZEL		
8	86313950	1	SWITCH, SPDT 3 POSN MOM, ARROW		
9	86292590	1	SWITCH, E-STOP AKW CHARIOT		
10	86292780	1	SWITCH,MICRO		
11	86007170	1	SWITCH, KEY 2 POSITION		
12	86358430	2	SCR, M4X12 FHMS, ISO7046 SS NP		
13	86255900	4	STANDOFF, 6-32 X 5/8 HEX NYL		
14	86354870	1	SWITCH, ROTARY		
15	86354560	1	BEZEL, ROTARY SWITCH		
16	86315470	1	METER, HOUR, LCD		
17	86354810	1	GASKET, SCE42B W/5008B PSA		
18	86353680	1	BREAKER, 1.5A, CARLING MAGNETIC		
19	86316160	1	BREAKER, 18A, 250VAC, 32VDC		ACTIVE MODEL ONLY
20	86371410	4	SCREW, 10-32 X .75 TMS SS BLK		
21	86358440	2	O-RING, 4MM ID, 1.5MM THK, BUNA-N		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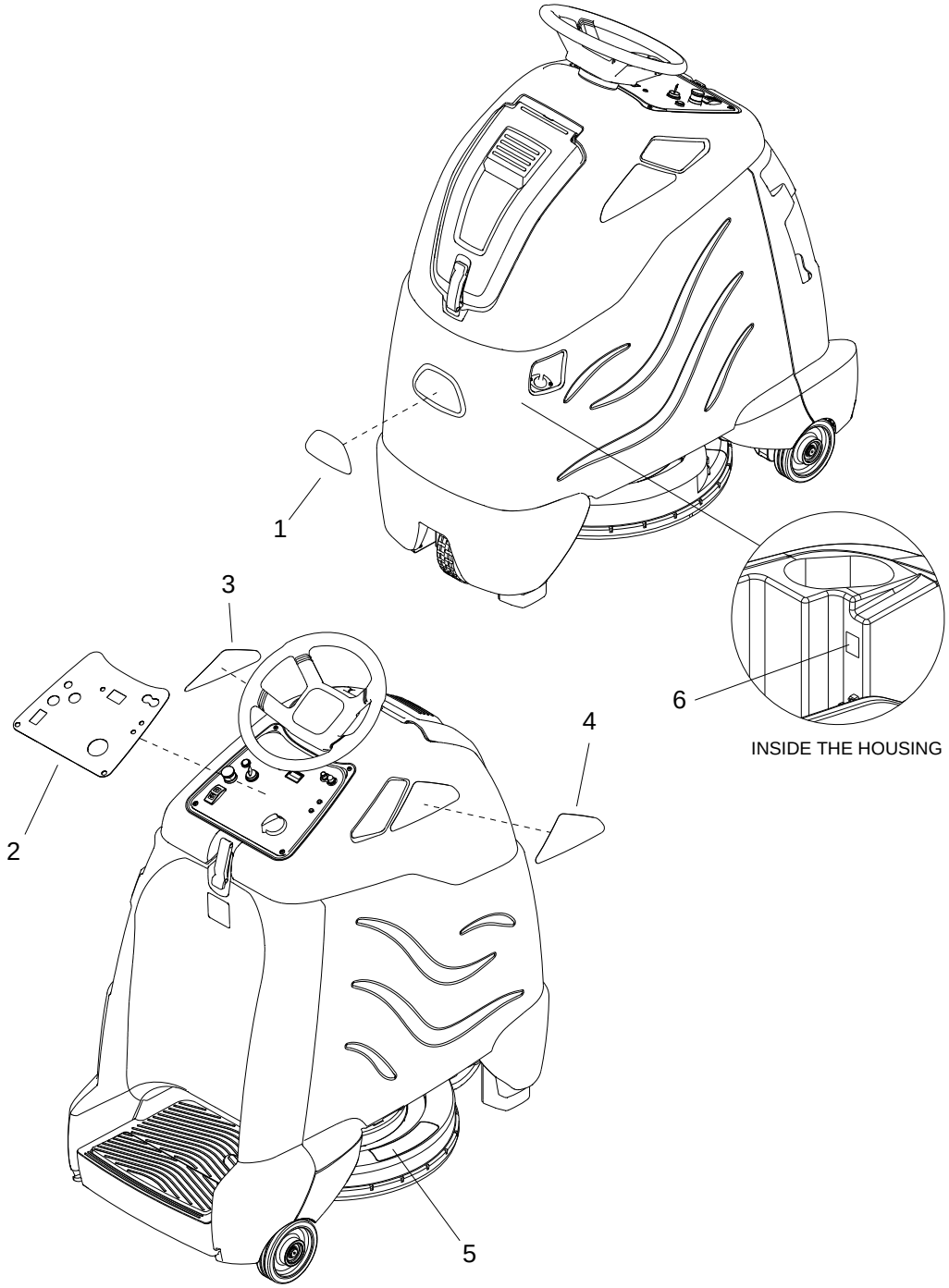
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86273780	4	SCR, 1/4-20 X 3/4 HHCS SS NP		
2	86010780	4	WASHER 1/4 SPLIT LOCK PLTD		
3	86010630	4	WASHER 1/4 ID X 5/8 OD SS		
4	86234390	1	SP CORD ASM, 16/3 SJTW X 2M IEC		
5	86353300	1	CHARGER, 36V 21A, OBC, 4 PROFILE		
6	86344430	1	GROMMET, CHARGE PLUG		
7	86173140	2	SCR, KA40X16,PT OVAL,WN1412,PL		
8	86264940	3	CABLE TIE, 11.38" UL/CSA		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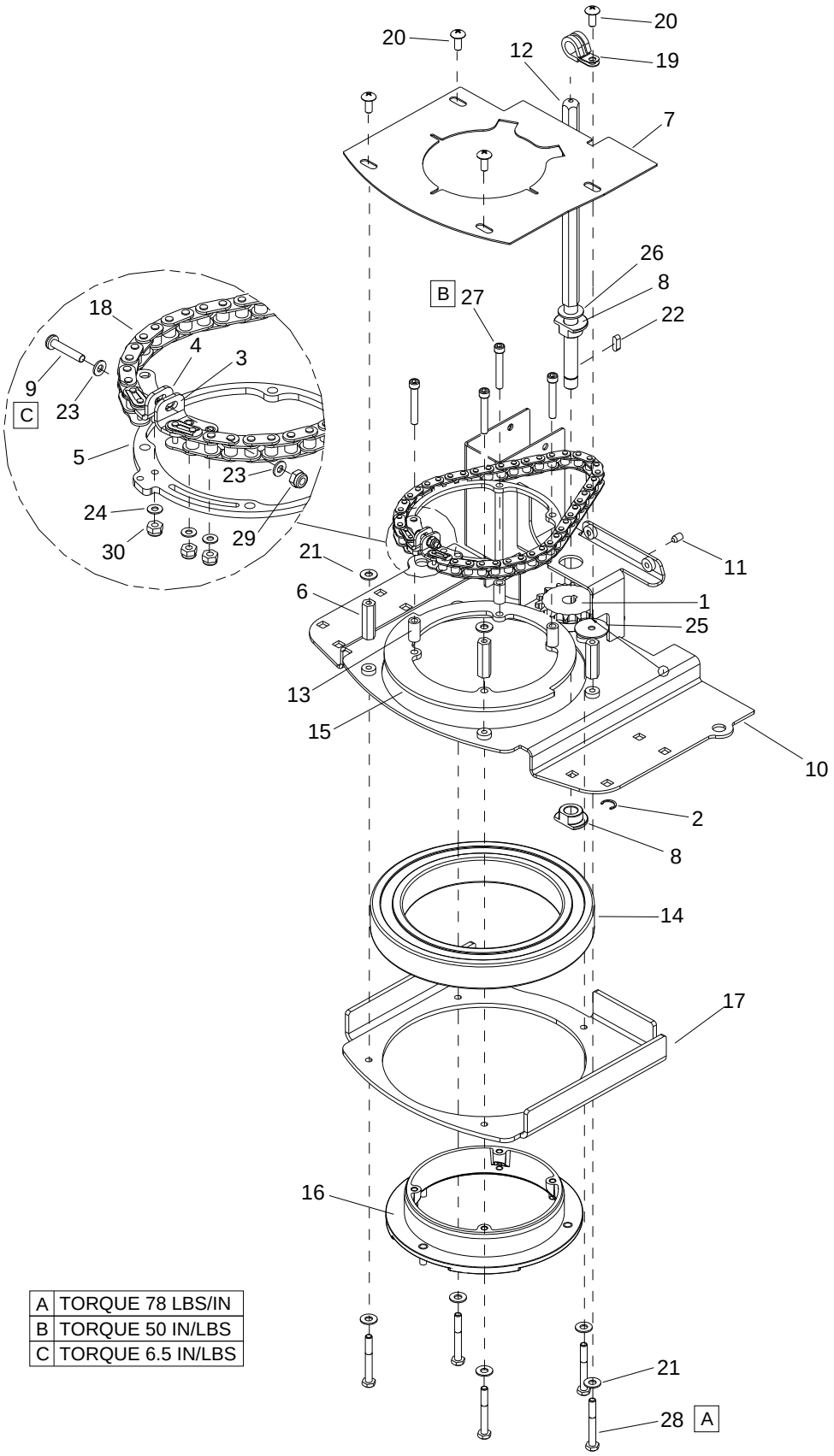
INSIDE THE HOUSING

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86395400	1	LABEL, WINDSOR LOGO DOMED		
2A	86395610	1	LABEL, PANEL, iGLOSS 20, DLX		ACTIVE MODELS
2B	86395620	1	LABEL, PANEL iGLOSS 20		PASSIVE MODELS
3	86395630	1	LABEL, iGLOSS 20 LEFT		
4	86395640	1	LABEL, iGLOSS 20 RIGHT		
5	86396800	1	LABEL, BURNISHER SHROUD		
6	86385080	1	LABEL, MANUAL	(3*)	

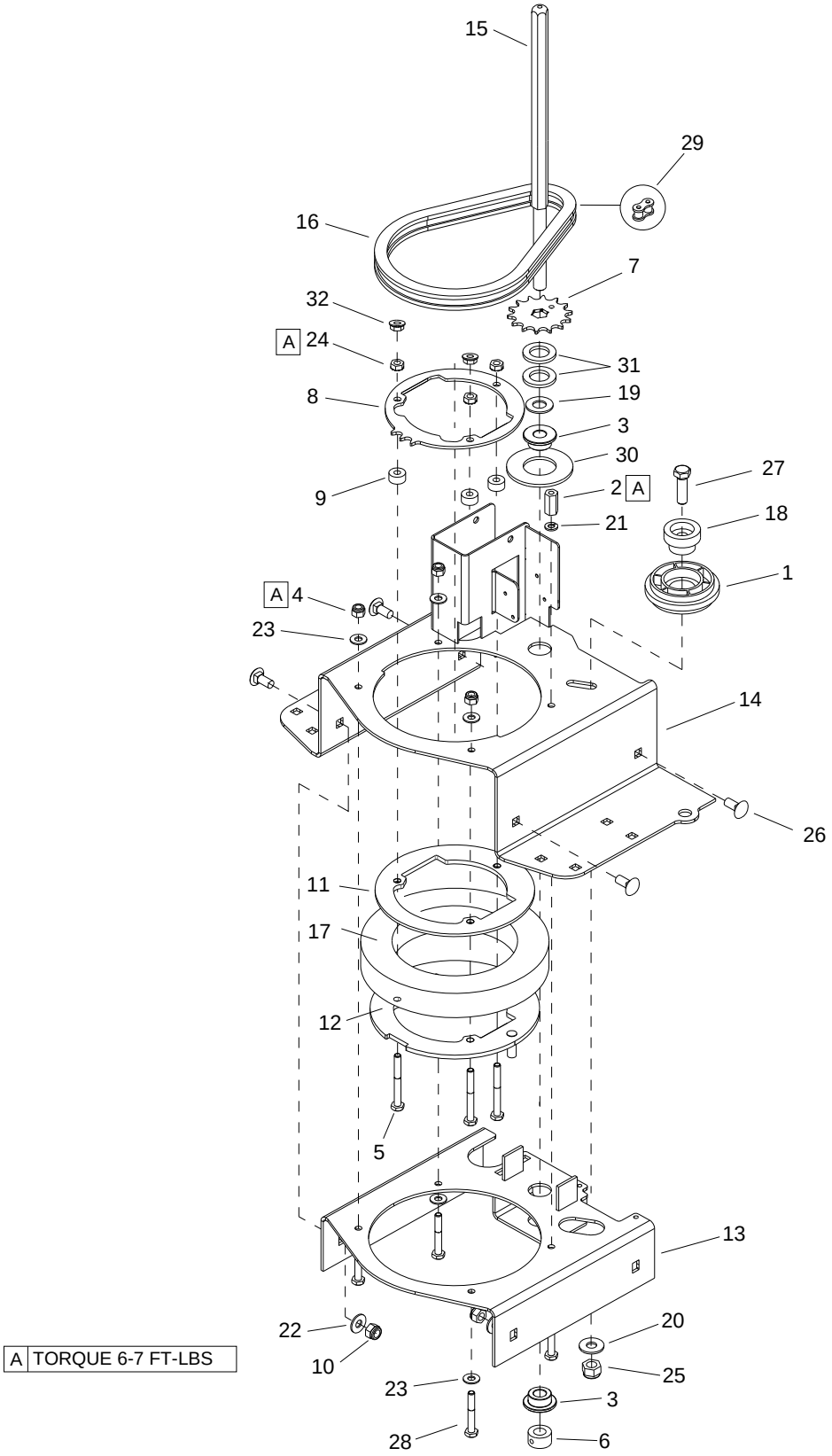
*See Serial Number Page.



A	TORQUE 78 LBS/IN
B	TORQUE 50 IN/LBS
C	TORQUE 6.5 IN/LBS

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86410140	1	SPROCKET, ANSI 40 14T		
2	86409640	1	CLIP, .50 SHAFT SIDE RETAIN		
3	86409570	1	BRACKET, C2 CHAIN TENSION		
4	86409560	1	BRACKET, C2 CHAIN MOUNT		
5	86409550	1	PLATE, C2 CHAIN RING		
6	86409520	4	NUT, 1/4-20 X 1.5 CPL SS		
7	86408820	1	PLATE, C2 CHAIN GUARD		
8	86408640	2	BUSHING,.503X1.25X.470 FLG'D'		
9	86408580	1	SCREW, 10-32 X 1 TPNHMS SS BLK ZNPLT		
10	86405590	1	ASM, C2 STEERING BRACKET		
11	86006610	1	SCREW, 1/4-20 X .25 SCHSET KCP BLKOX		
12	86405560	1	SHAFT, STEERING SPROCKET		
13	86405510	4	SPACER, .25ID X .43OD X.83LG		
14	86405490	1	BEARING, C2 STEERING		
15	86405480	1	PLATE, C2 INNER RACE TOP		
16	86405470	1	MOUNT, BEARING, LOWER		
17	86405460	1	PLATE, C2 OUTER RACE		
18	86405340	1	CHAIN, ANSI#40 X 21" W/2 MASTER		
19	86363870	1	CLAMP, 5/8" OD CUSHIONED		
20	86007030	4	SCREW, 1/4-20 X .625 PHTRHMS STL NP		
21	86010630	10	WASHER, 1/4 SS		
22	86326710	1	KEY, 5 X 5 X 16MM CS GR1045		
23	86279190	2	WASHER, 10 FLT STL ZNPLT		
24	86278990	3	WASHER, 8 FLT		
25	86278940	2	WASHER, 1/4 STL ZNPLT		
26	86278850	1	WASHER, .506 X .94 X .06 NYL		
27	86275390	4	SCREW, 1/4-20 X 1.625 SCHCS STL ZNPLT		
28	86273850	5	SCREW, 1/4-20 X 2 HHCS SS		
29	86270990	1	NUT, 10-32 HEX NYLOCK SS		
30	86270850	3	NUT, 8-32 HEX NYLOCK SS		

*See Serial Number Page.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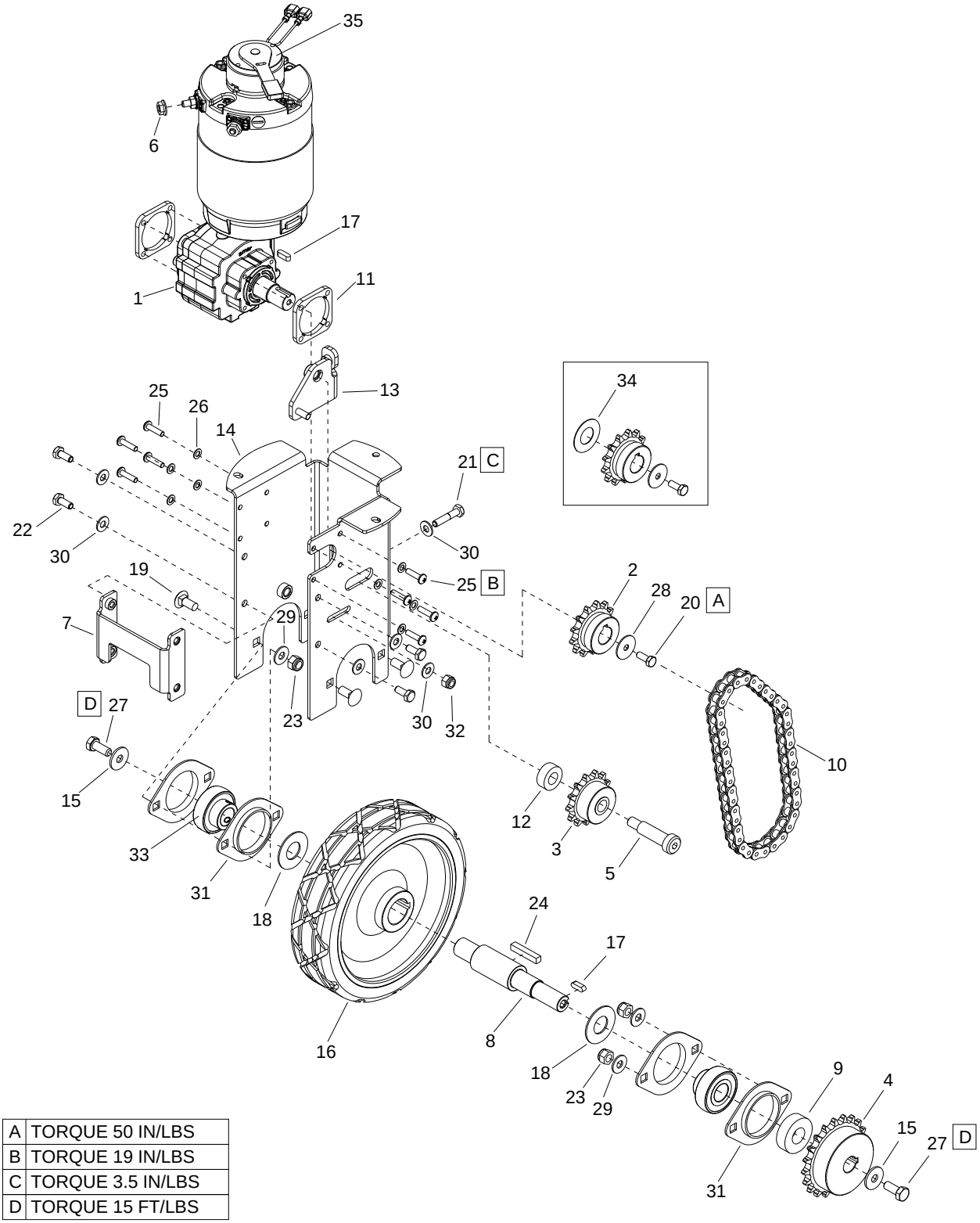
A TORQUE 6-7 FT-LBS

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86330720	1	CHAIN TENSIONER		
2	86329350	1	NUT, 1/4-20 X 7/8 HEX COUPLING SS		
3	86328050	2	WASHER, SHOULDER.48ID X 1.25OD		
4	86005810	3	NUT, 1/4-20 HEX NYLOCK SS		
5	86273100	3	SCR, 1/4-20X2-1/4 HXHD CAP		
6	86322060	1	COLLAR, 12MM ID		
7	86322050	1	SPROCKET, STEERING, 14T		
8	86322040	1	PLATE, CHAIN RING		
9	86322030	3	SPACER		
10	86270830	7	NUT, 5/16-18 HEX NYLOCK SS		
11	86319740	1	PLATE, UPPER CLAMP		
12	86319680	1	PLATE, LOWER CLAMP		
13	86319610	1	BRACKET, BEARING CLAMP		
14	86319600	1	BRACKET, DRIVE MOUNT		
15	86319590	1	SHAFT, STEERING SPROCKET		
16	86319560	1	CHAIN, ISO O8B, 12.7MM PITCH		
17	86014440	1	BEARING, DRIVE		
18	86224270	1	SLEEVE, CHAIN TENSIONER		
19	86259430	1	WASHER, 12.5 ID X 26 OD X 2T FLAT		
20	86279510	1	WASHER, 3/8 X 1 FLAT NP		
21	86010780	1	WASHER, 1/4 SPLIT		
22	86010670	4	WASHER, 5/16 X 3/4 SS		
23	86010630	7	WASHER, 1/4 X 5/8 FLAT SS		
24	86005710	3	NUT, 1/4-20 HEX W/STAR		
25	86271930	1	NUT, 3/8-16 HEX NYLOCK SS		
26	86276070	4	SCR, 5/16-18 X 3/4 CARRIAGE SS		
27	86275190	1	SCR, 3/8-16 X 1.25 HHCS SS		
28	86274150	4	SCR, 1/4-20 X 1.75 HHCS		
29	86232780	-	CHAIN MASTERLINK 12.7MM		
30	86368600	1	WASHER, 2.5 OD X 1.25 ID X .125 THK, DELRIN		
31	86279420	2	WASHER .75IDX1.25ODX.125THK NY		
32	86271370	2	NUT, 1/4-20 SERFLG STL ZNPLT		

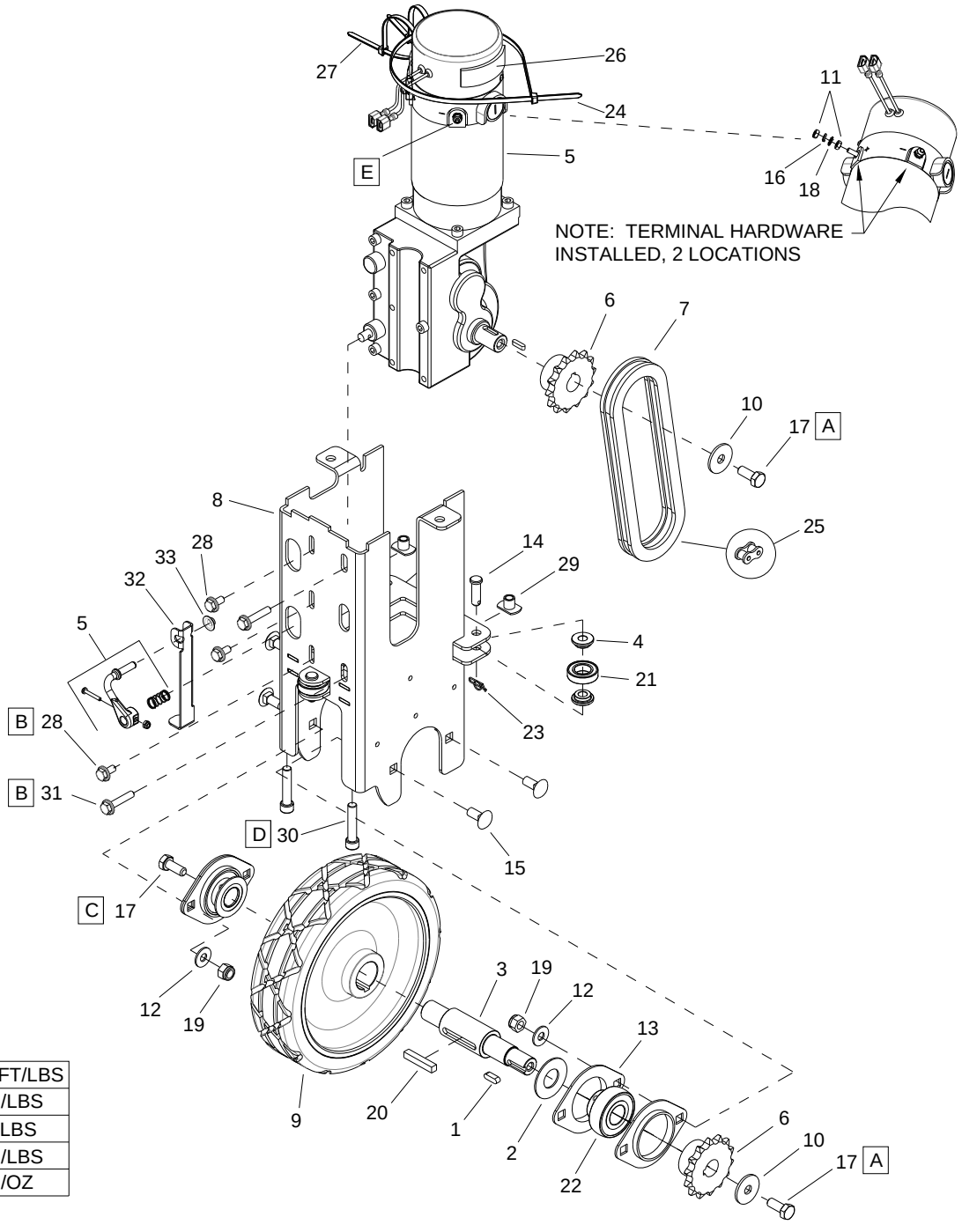
*See Serial Number Page.



A	TORQUE 50 IN/LBS
B	TORQUE 19 IN/LBS
C	TORQUE 3.5 IN/LBS
D	TORQUE 15 FT/LBS

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86411170	1	MOTOR, C2 TRACTION MOTOR	(4*)	
2	86409960	1	SPROCKET, ANSI 40 13T		
3	86409950	1	SPROCKET, ANSI 40 13T IDLER		
4	86409940	1	SPROCKET, ANSI 40 20T		
5	86405910	1	SHOULDER BOLT, 1/2 X 1.5 SS		
6	86384110	2	NUT, M6-1, HEX, SERFLG, DIN6923		
7	86405390	1	BRACKET, C2 HOUSING BRACE		
8	86405380	1	AXLE, DRIVE WHEEL		
9	86405370	1	SPACER, C2 WHEEL SHAFT		
10	86405360	1	CHAIN, ANSI#40 X 20.5" W/MASTER		
11	86405350	2	SPACER, C2 MTR MNT HOUSING		
12	86405330	1	SPACER, C2 DRIVE TENSIONER		
13	86405320	1	BRACKET, C2 DRIVE TENSIONER		
14	86405310	1	HOUSING, C2 AXLE		
15	86394170	2	WASHER, M8 FNDR SS DIN 9021		
16	86369170	1	WHEEL, 8.00 X 2.00, GRAY X-GRV		
17	86326710	2	KEY, 5 X 5 X 16MM CS GR1045		
18	86321670	2	WASHER, .748 SS		
19	86276070	4	SCR, 5/16-18 X 3/4 CARRIAGE SS		
20	86274700	1	SCREW, M6 X 1 X 16 HHCS ZNPLT		
21	86274620	1	SCREW, 1/4-20 X 1.25 HHMS STL GR5 ZNPLT		
22	86273750	4	SCREW, 1/4-20 X .625 HHCS SS NP		
23	86270830	4	NUT, 5/16-18 HEX NYLOCK SS		
24	86219640	1	KEY, 1/4 X 1/4 X 1.5 LCSTL GR1018		
25	86384120	8	SCREW M5-0.8 X 16, TPNHMSSS2		
26	86137330	8	WASHER, M5 SHPRF STL ZNPLT		
27	86136640	2	SCREW, M8-1.25 X 20 HHMS ZNPLT		
28	86010810	1	WASHER, 1/4 FNDR SS		
29	86010670	4	WASHER, 5/16 FLT SS		
30	86010630	6	WASHER, 1/4 SS		
31	86008610	4	FLANGE, BEARING PRESSED STEEL		
32	86005810	1	NUT, 1/4-20 HEX NYLOCK SS		
33	86001030	2	BEARING, 3/4 SPH BALL		
34	86405540	1	SPACER, SHAFT, C2		
35	86386910	1	BRAKE, C2 TRACTION MOTOR		

*See Serial Number Page.



	A	TORQUE 15/18 FT/LBS
	B	TORQUE 120 IN/LBS
	C	TORQUE 15 FT/LBS
*	D	TORQUE 100 IN/LBS
	E	TORQUE 100 IN/OZ

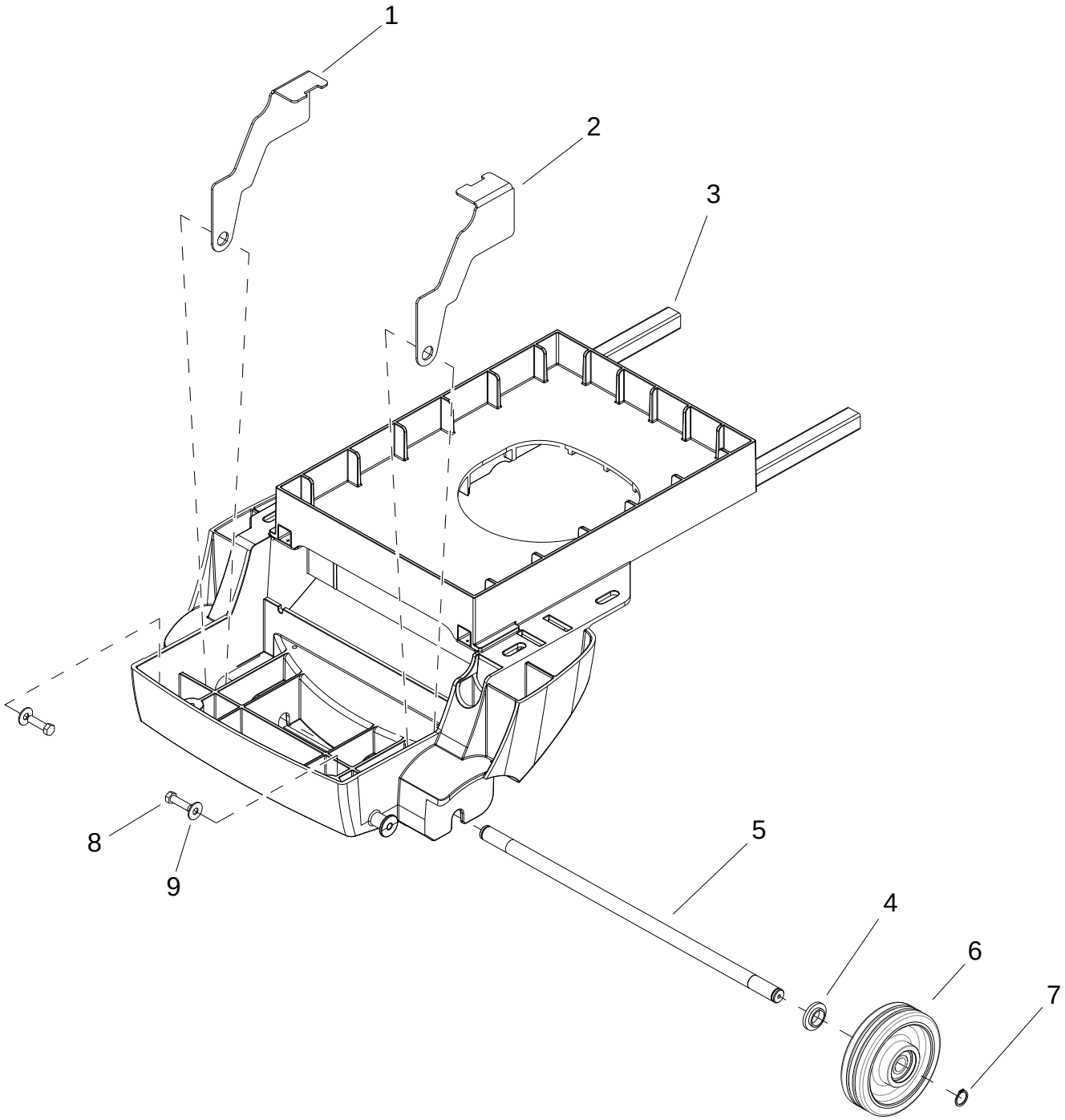
* AFTER B

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86326710	1	KEY, 5 X 5 X 16		
2	86321670	2	WASHER, WHEEL SPACER		
3	86319810	1	AXLE, DRIVE WHEEL		
4	86319670	6	SLEEVE, BEARING		
5	86364010	1	MOTOR, TRACTION		▲
-	86378440	1	KIT, BRUSHES, DRIVE MOTOR		● NOT SHOWN
-	98408960	-	BRAKE REPLACEMENT SMALL STAND ON		NOT SHOWN
6	86319650	2	SPROCKET, DRIVE, 14T		
7	86319640	1	CHAIN, ISO O8B, 12.7MM PITCH		
8	86319620	1	FRAME, LOWER DRIVE		
9	86369170	1	WHEEL, 8.00 X 2.00, GRAY X-GRV		
10	86279630	3	WASHER, .344IDX1.130ODX.09T PLT		
11	86288500	4	NUT, M4-.7 HEX STL CL8 ZNPLT		
12	86010670	4	WASHER, 5/16 X 3/4 SS		
13	86008610	4	FLANGE, BEARING PRESSED STEEL		
14	86272550	3	PIN, CLEVIS, 5/16 X 1.00 PLTD		
15	86276070	4	SCR, 5/16-18 X 3/4 CARRIAGE SS		
16	86134850	2	WASHER,SPRNG LK,M4,DIN127B,SST		
17	86136640	3	SCR, M8 X 20 HHMS		
18	86372230	2	WASHER, EXT TOOTH STAR		
19	86270830	4	NUT, 5/16-18 HEX NYLOCK SS		
20	86219640	1	KEY, 1/4 SQ. X 1.5		
21	86332380	3	ROLLER, 1.1 OD		
22	86001030	2	BEARING, BALL 3/4 BORE SPHERED		
23	86008660	3	COTTER 5/16" RING		
24	86002830	1	CABLE TIE .375 X 24.7		
25	86232780	-	CHAIN MASTER LINK 12.7MM		NOT SHOWN
26	86362040	2	TAPE CLOSED CELL 1/8 X 3/4 X 2 1/2 PSA		
27	86264920	2	CABLE TIE, 7" UL/CSA		
28	86362140	3	SCREW, M6 X 12MM, HEX FLANGE, PLTD		
29	86348490	2	NUT, WELD 5/16-18 X .38, TAB BASE, STL	(*2)	
30	86362130	2	SCREW, 5/16 X 1.50, SHCS, SS, FT	(*2)	
31	86362150	2	SCREW, M6 X 30MM, HEX FLANGE, PLTD		
32	86333870	1	LEVER, DRIVE ENGAGEMENT		
33	86271240	1	NUT, 1/4 PAL STL ZNPLT		

▲ For installation of 8.636-401.0 with brake harness and lower harness, order kit 8.636-900.0

● For CCL traction motor, use 86331990 brush set.
For Linix traction motor, use 86378410 brush set.
Both sets included in kit.

*See Serial Number Page.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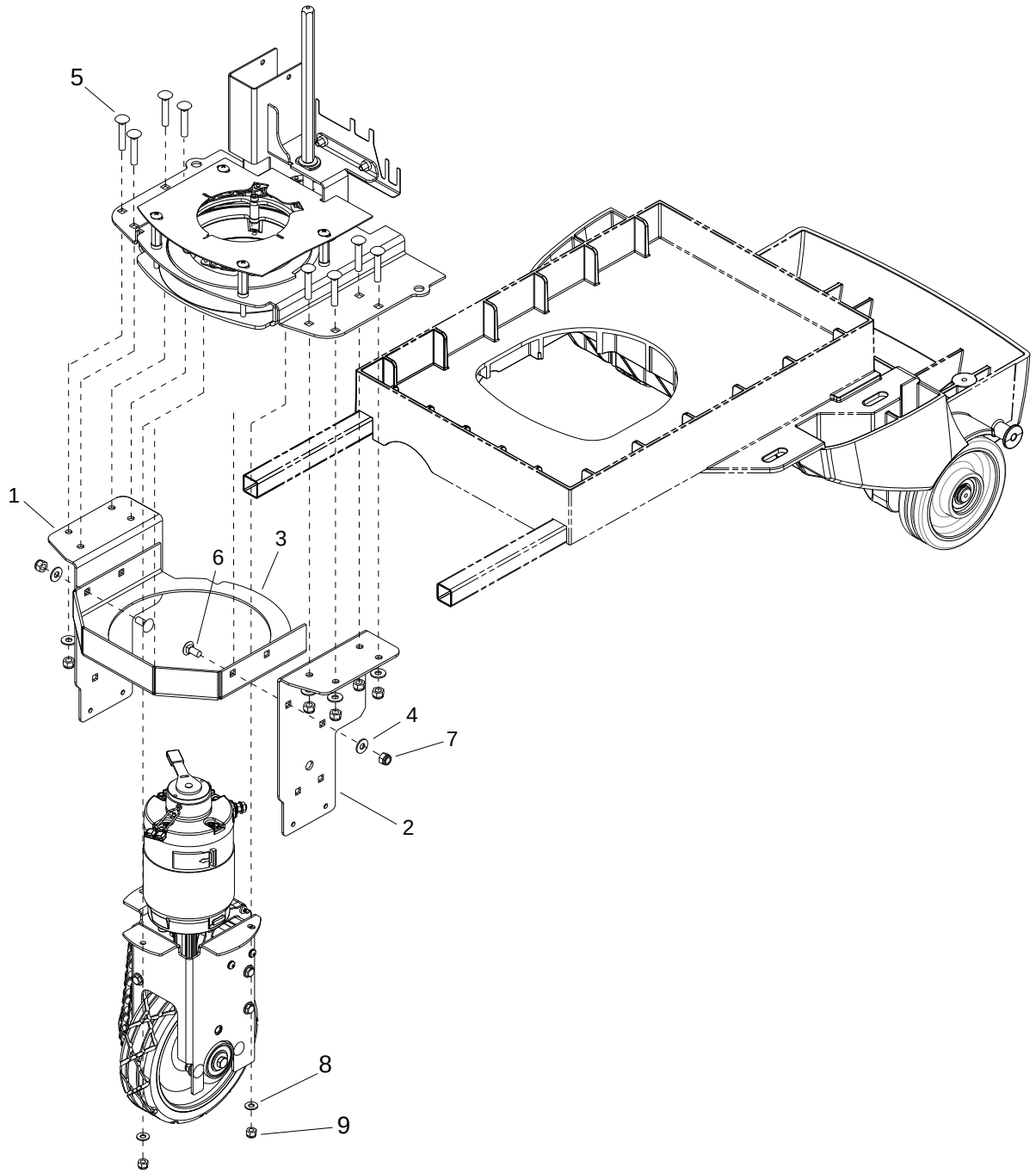
REF	PART NO.	QTY	DESCRIPTION	SERIALNO. FROM	NOTES
1	86326260	1	BRACKET, FRAME LEFT		
2	86326250	1	BRACKET, FRAME RIGHT		
3	86368500	1	FRAME ASM, BLK		INCLUDES ITEM 8 & 9
4	86326220	2	SPACER, FLG .887ID X 1.055D X .345LG		
5	86318030	1	AXLE, 20MM X 562 MM		
6	86369160	2	WHEEL, 6.00X1.58, GRY W/ BEARINGS		
7	86223470	2	RING, 20MM EXTERNAL SNAP		
8	86278910	2	WASHER 3/8 SS		
9	86340950	2	SCR, 3/8 X 1.5, LAG, PLTD		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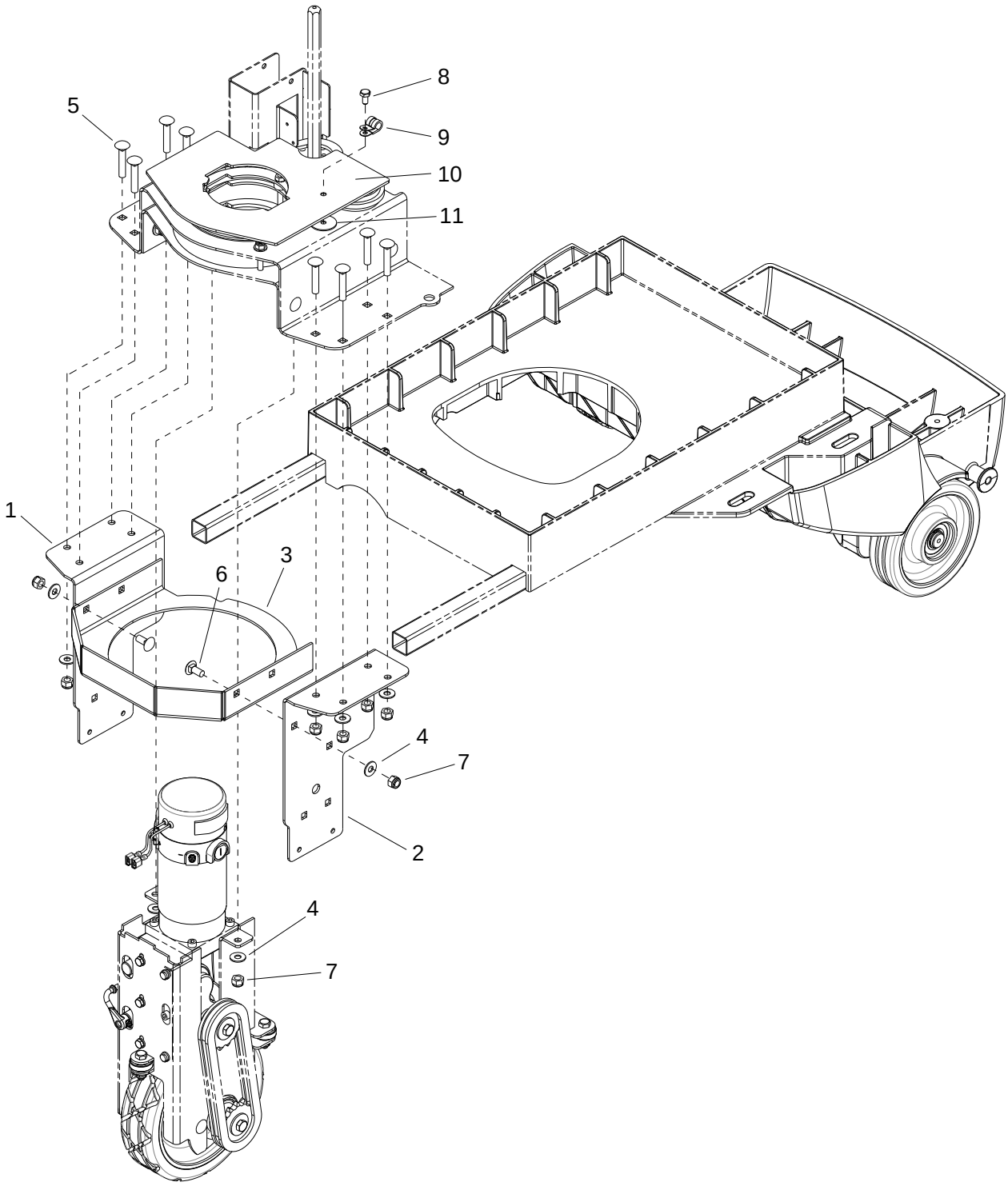
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86344620	1	BRACKET, LINKAGE MOUNT		
2	86319730	1	BRACKET, LINKAGE MOUNT, LEFT		
3	86405410	1	BRACKET, C2 LOWER SUPPORT		
4	86010670	10	WASHER, 5/16 X 3/4 SS		
5	86276690	8	SCR, 5/16-18 X 1.75 CARR SS		
6	86276070	2	SCR, 5/16-18 X 3/4 CARRIAGE SS		
7	86270830	10	NUT, 5/16-18 HEX NYLOCK SS		
8	86010630	3	WASHER, 1/4 X 5/8 FLAT SS		
9	86005810	3	NUT, 1/4-20 HEX NYLOCK SS		

*See Serial Number Page.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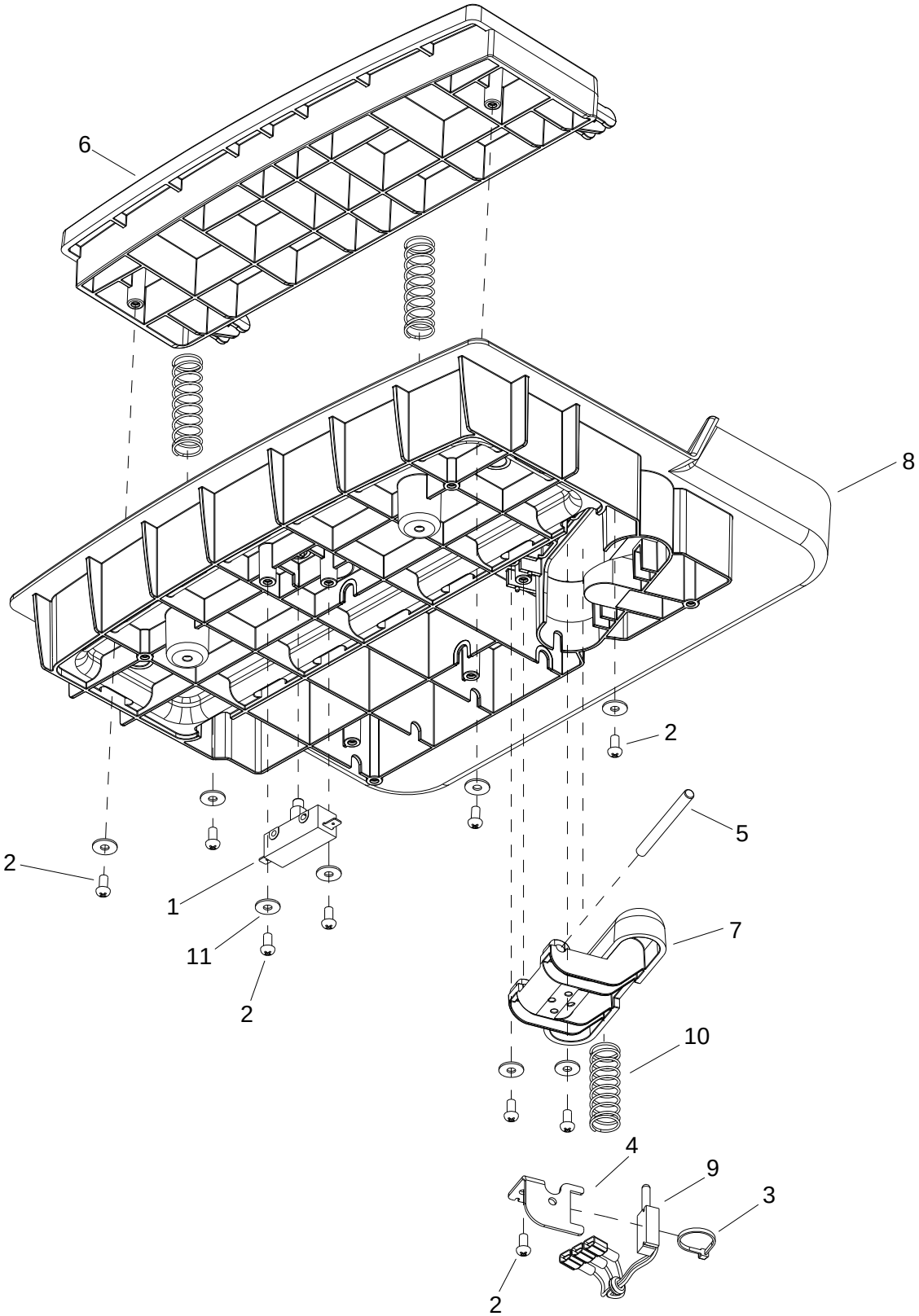
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86344620	1	BRACKET, LINKAGE MOUNT		
2	86319730	1	BRACKET, LINKAGE MOUNT, LEFT		
3	86331630	1	BRACKET, ROLLER GUIDE		
4	86010670	12	WASHER, 5/16 X 3/4 SS		
5	86276690	8	SCR, 5/16-18 X 1.75 CARR SS		
6	86276070	2	SCR, 5/16-18 X 3/4 CARRIAGE SS		
7	86270830	12	NUT, 5/16-18 HEX NYLOCK SS		
8	86274760	1	SCR, 1/4-20 X 1/2 HHCS		
9	86363870	1	CLAMP, 5/8” OD CUSHIONED		
10	86329340	1	PLATE, CHAIN GUARD		
11	86278940	1	WASHER 1/4 ID X 1-1/4 OD PLT		

*See Serial Number Page.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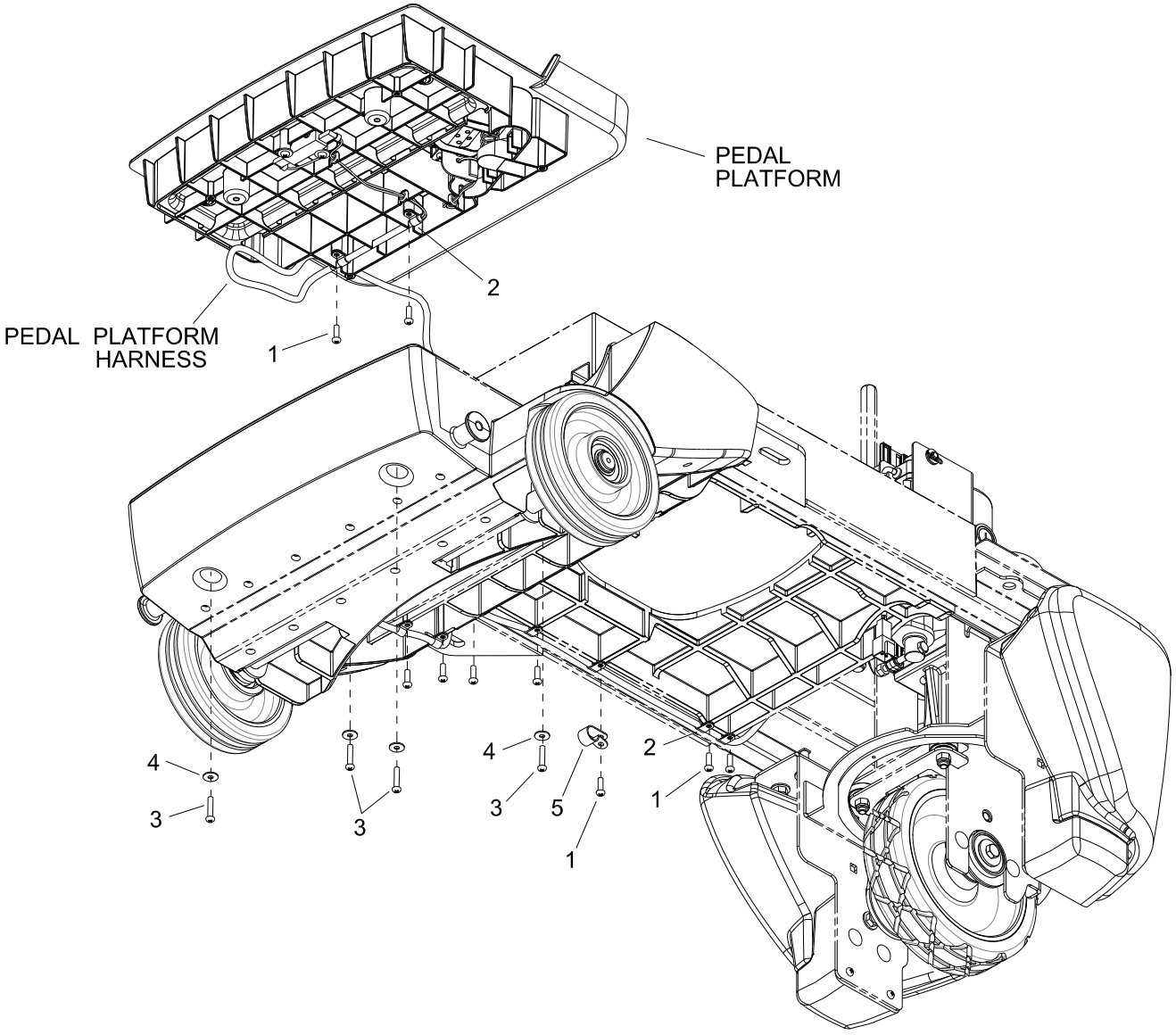
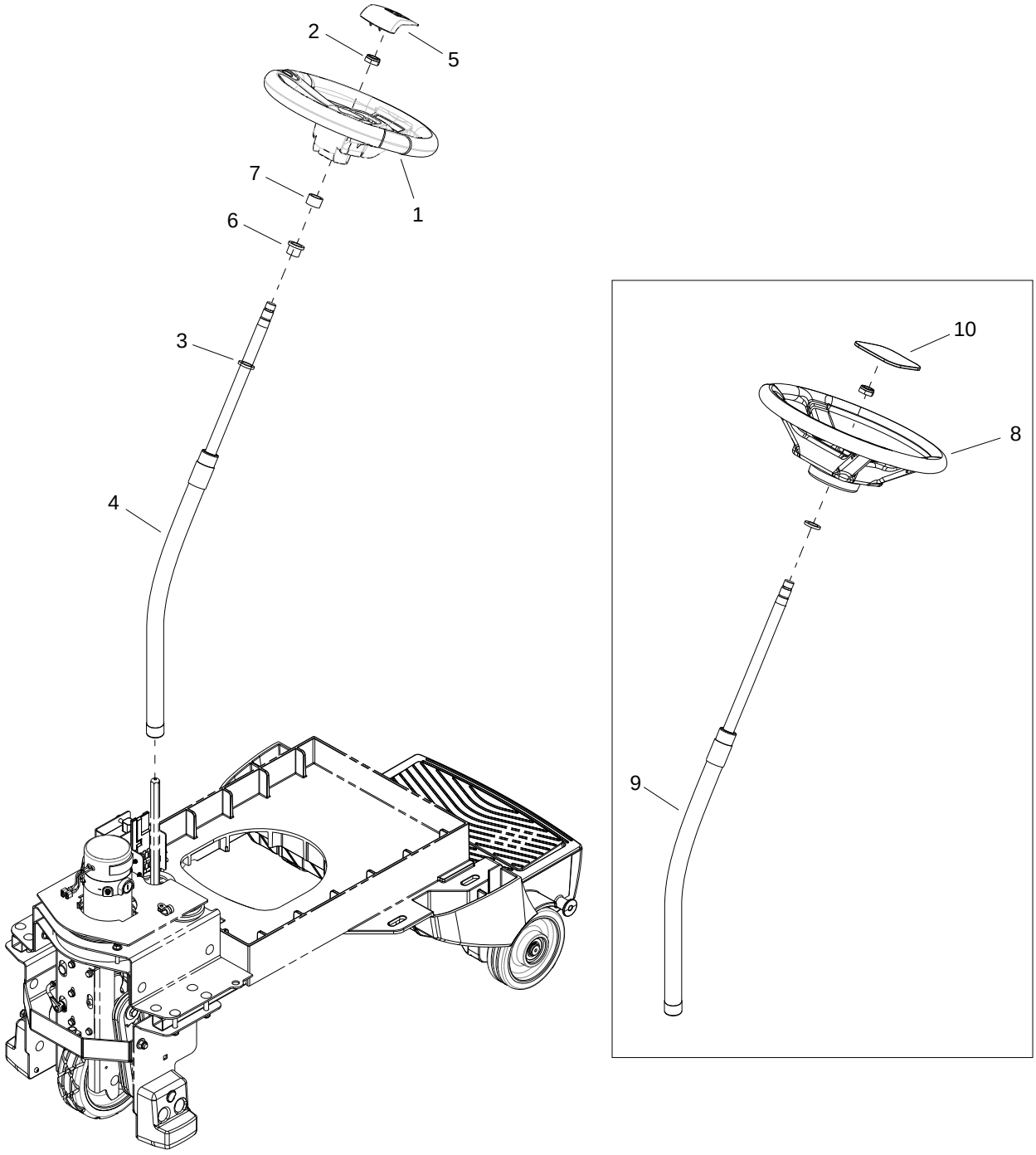
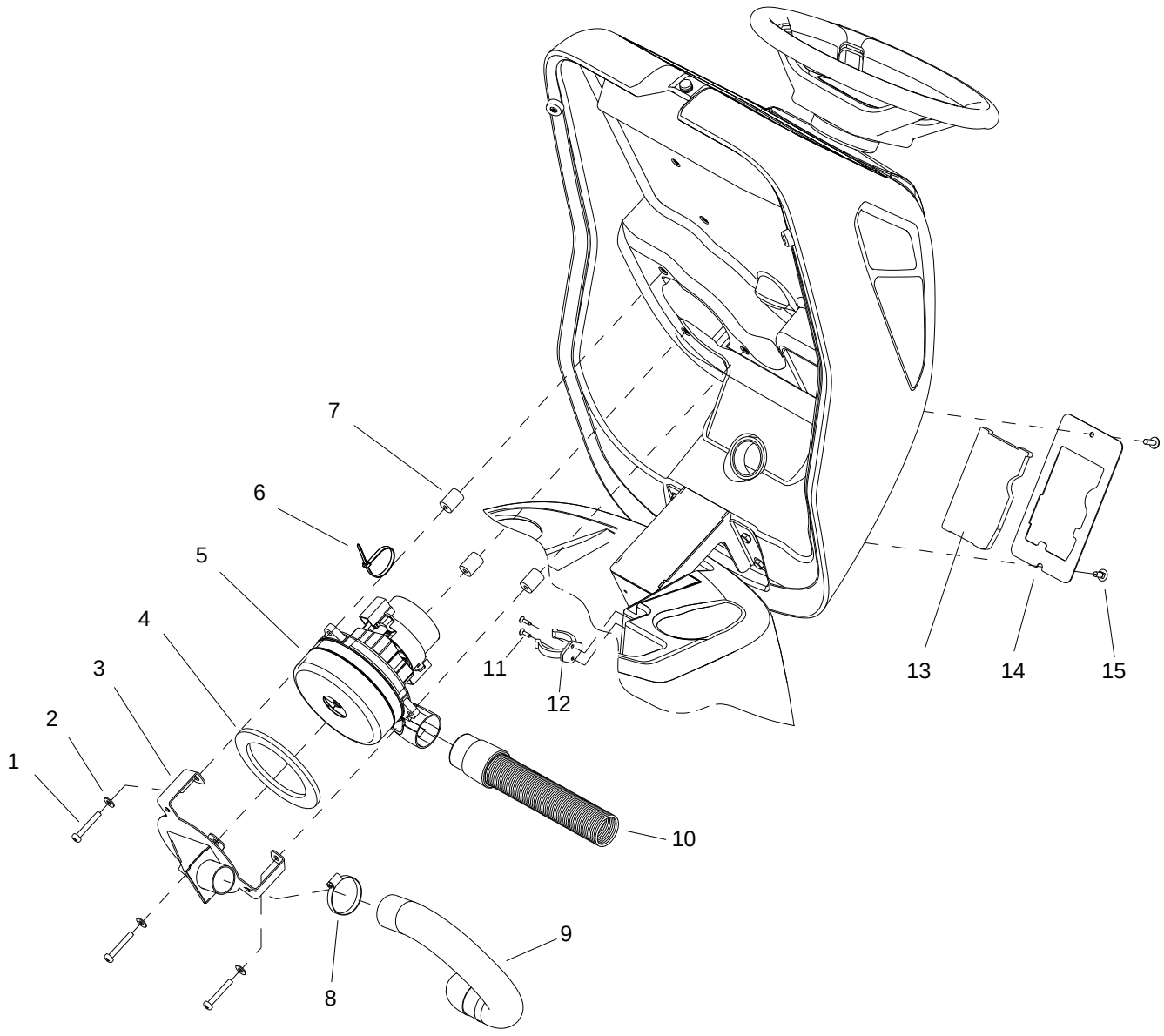
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86007110	1	SWITCH, 25A SPST 125-250V SNAP		
2	86172980	9	SCR, KA50X10, PT OHS, WN1412, PLTD		
3	86264930	1	CABLE TIE, 3.5" UL/CS		
4	86326150	1	BRKT, LINEAR POT		
5	86326140	1	PIN, DOWEL .25 X 2.75, STEEL		
6	86334240	1	PEDAL, HEEL, BLK		
7	86334690	1	PEDAL, ACCELERATOR, YEL		
8	86334230	1	PLATFORM, OPERATOR, BLK		
9	86311560	1	POTENTIOMETER ASM, LINEAR		
10	86254970	3	SPRING, COMP 18MM OD X 83 X 2		
11	86173330	8	WASHER, M5, FLAT, ISO7093, SS		


PEDAL
PLATFORM
2
PEDAL PLATFORM
HARNESS
1
4
3
3
4
3
5
1
2
1

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86327510	9	SCR, KA50 X 16, WN1412 A2 SS		
2	86198440	9	CLAMP, 1/4 PLASTIC CABLE		
3	86327910	4	SCR, KA50X25, PT OHS, WN1412, PLTD		
4	86173330	4	WASHER, M5, FLAT, ISO7093, SS		
5	86198470	1	CLAMP, 9/16 DIA NYLON		


2
5
7
1
6
3
4
10
8
9

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	64357990	1	STEERING WHEEL		
2	86271610	1	NUT 5/8-18 HEX NYLOCK THN		
3	86279420	1	WASHER,.75IDX1.25ODX.125THK NY		
4	86355690	1	STEERING SHAFT		COMPLETE
5	66403530	1	CAP, STEERING WHEEL KARCHER		
6	86228790	2	BUSHING, .753 X .875 X .75 FLG		
7	86333950	1	BUSHING, .751 D X 1 X .625 FLG		
8	86259610	1	WHEEL STEERING 40 SPLINE HUB		
9	86378370	1	ASM, SHAFT, STEERING, CHARIOT 2		
10	86234810	1	COVER, STEERING WHEEL		


1
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11
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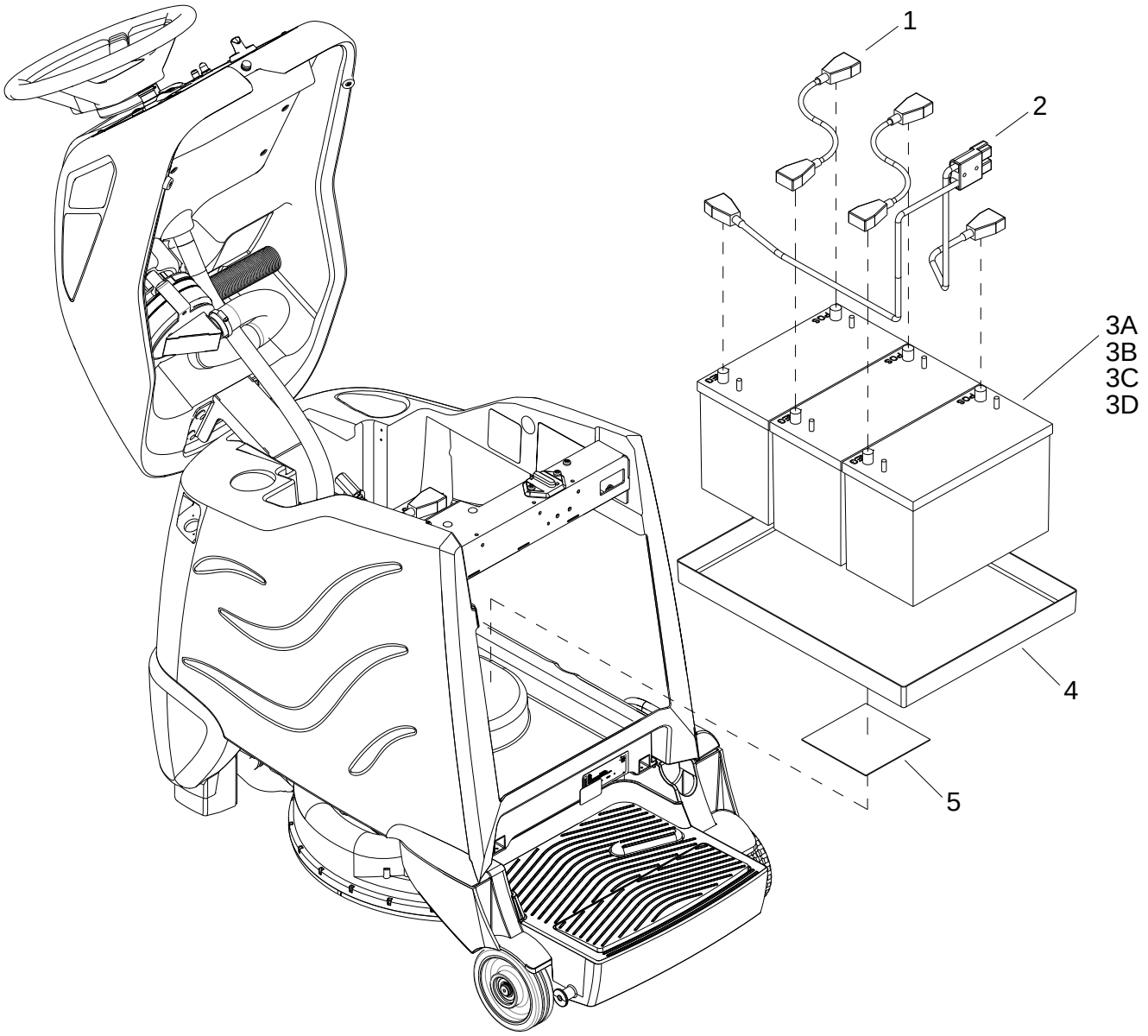
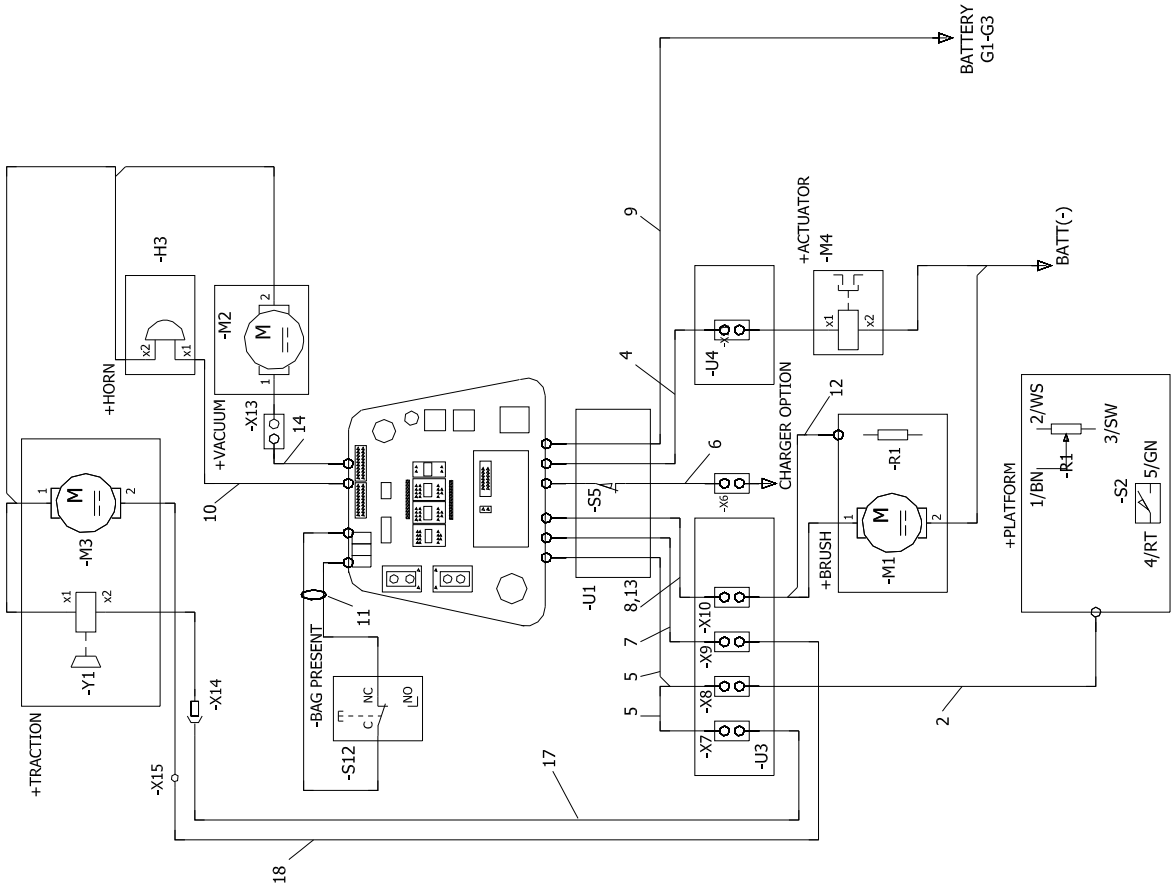
13
14
15

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86273920	3	SCREW 1/4-20 X 1.75 PPHMS SS		
2	86010630	3	WASHER 1/4 ID X 5/8 OD SS		
3	86353290	1	BRKT, VAC MOTOR		
4	86312920	1	GASKET, VAC MOTOR		
5	86012210	1	VAC MOTOR, 36VDC 2ST TD		
6	86264940	1	CABLE TIE, 11.38" UL/CSA		
7	86327500	3	MOUNT, VIBRATION		
8	86002400	1	CLAMP, 2.0" WORM GEAR X .312W		
9	86320330	1	HOSE ASM, 1.5 BLK VAC X12		
10	86356150	1	HOSE, 1.5" X 7.75", 4:1 STRETCH		
11	86291220	2	SCR, KA40X16,PT FLAT,WN1413,SS		
12	86355910	1	CLIP, 1-3/4", PLASTIC		
13	86143330	1	MOTOR FILTER U19836		
14	86354650	1	FRAME, FILTER		
15	86277640	2	SCREW 1/4-20 X 3/4 PTHMS SS		

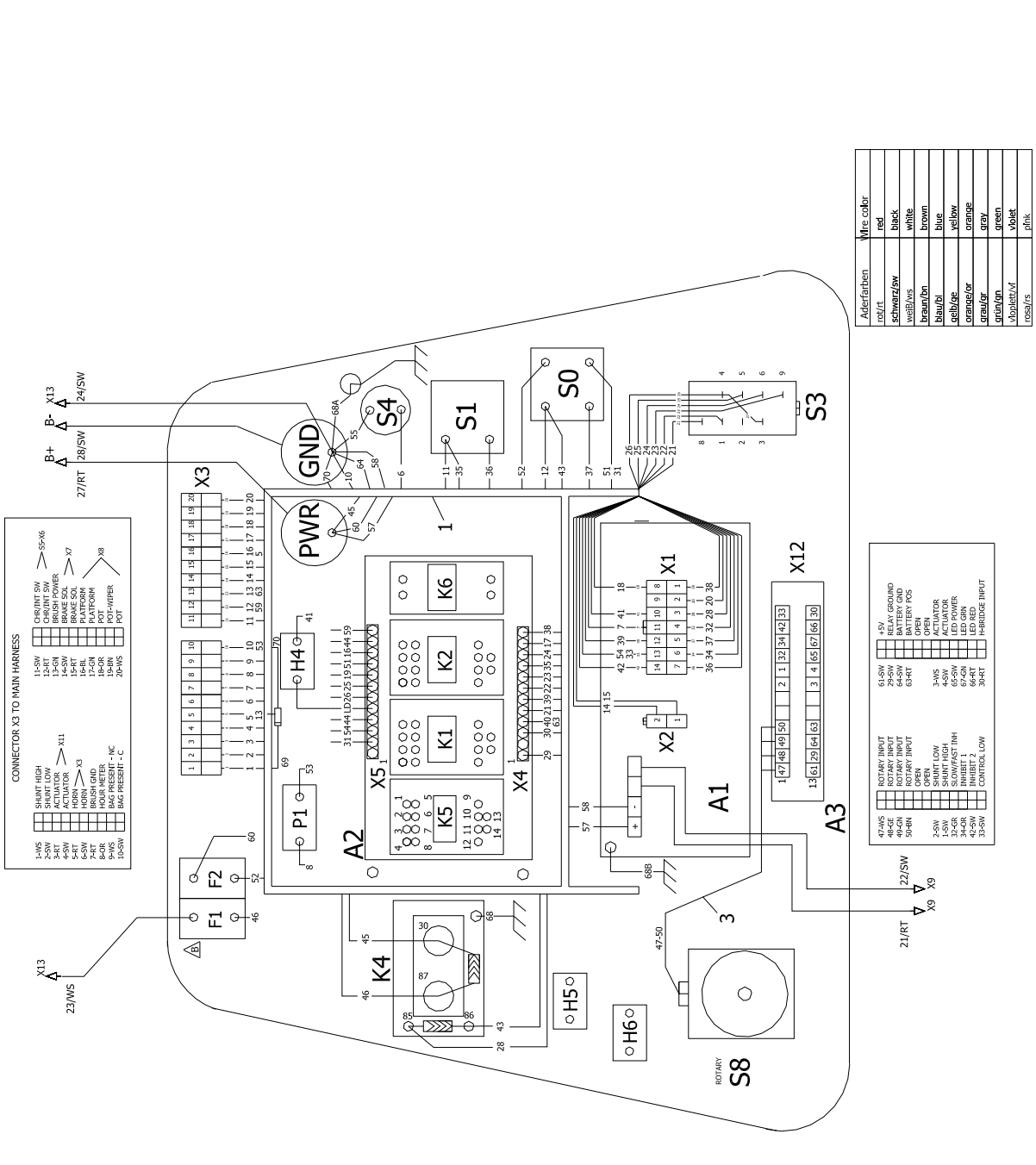

1
2
3A
3B
3C
3D
4
5

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86329720	2	BATT, CBL, ASM, JUMPER		
2	86356120	1	CABLE, ASM, BATTERY		
3A	86228400	3	BATTERY, 12V, 130AH		
3B	86328630	3	BATTERY, 12V 114A/H AGM		NOT SHOWN
3C	86283410	3	BATTERY, 12V, 225AH (J185H-AC)		NOT SHOWN
3D	86228430	3	BATTERY, 12V AGM 234AH		NOT SHOWN
4	86395310	1	TRAY, BATTERY LINER, CB20		REQD. WITH 86283410 & 86228430
5	86359550	1	TAPE, 1/16" T X 6.0" SQ. 2 SIDE ADH		



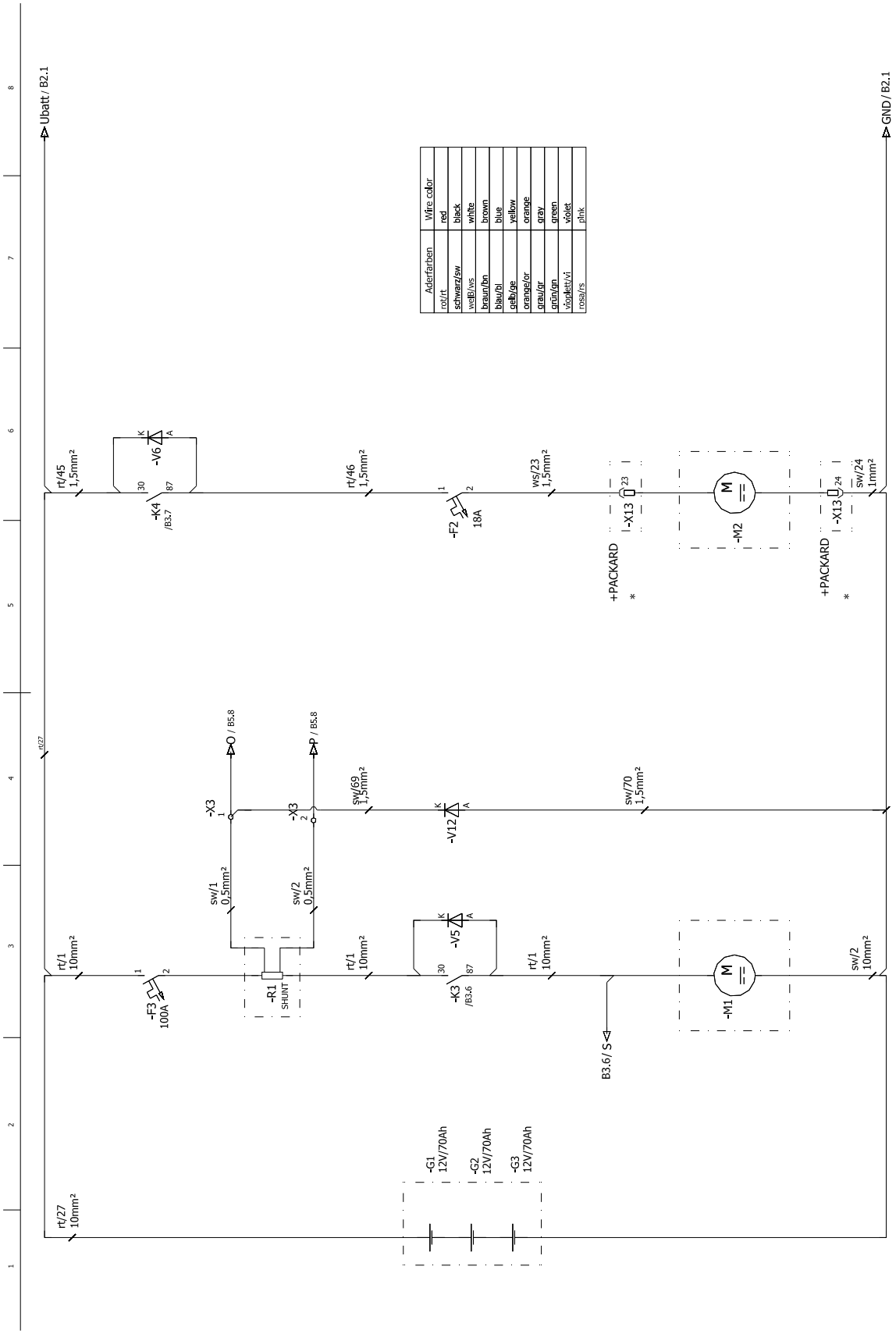
X7	BRAKE Y1	1 2	1 - 15/RT 2 - 14/SW
X8	POT PLATFORM U2	1 2 3 4 5 6	1 - 19/BN 2 - 20/WS 3 - 18/OR 4 - 17/GN 5 - 16/BL 6 - NC
X9	TRACTION M3	1 2	1 - 21/RT 2 - 22/SW
X10	BRUSH SHUNT M1	1 2 3 4	1 - 1/WS 2 - 2/SW 3 - 7/RT 4 - 13/GN
X11	ACTUATOR M4	1 2	1 - 3/RT 2 - 4/WS
X13	VACUUM M2	1 2	1 - 23/WS 2 - 24/SW
U1	INTERLOCK S5	1 2	1 - 11/SW 2 - 12/RT
X3	HORN H3	PANEL TB	5 - 5/WS 6 - 6/SW
X6	CHARGER OPTION	1 2	1 - 11C/SW 2 - 12C/RT

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86354410	1	HARNESS, PANEL IGLOSS20		
2	86356360	1	HARNESS, IGLOSS20 OPERATOR PLATFORM		
3	86354380	1	HARNESS, ROTARY SWITCH		
4	86344450		HARNESS, MAIN ACTUATOR		
5	86356350	1	HARNESS, IGLOSS20 MAIN POT AND BRAKE		
6	86356370	1	HARNESS, IGLOSS20 MAIN CHARGER		
7	86356340	1	HARNESS, IGLOSS20 MAIN TRACTION		
8	86354390	1	HARNESS, IGLOSS20 BRUSH		
9	86354400	1	HARNESS, IGLOSS20 MAIN POWER		
10	86333170	1	HARNESS, CS20 MAIN HORN		
11	86354370	1	HARNESS, IGLOSS20 BAG PRESENT		
12	86359290	1	HARNESS, iGLOSS20 SHUNT SENSE JUMPER		
13	86359300	1	HARNESS, iGLOSS20 SHUNT SENSE		
14	86333140		HARNESS, CS20 MAIN VACUUM		OPTIONAL
15	86359190	1	HARNESS, SHUNT JUMPER WIRE, BRAIDED		
16	86359200	1	HARNESS, SHUNT JUMPER WIRE		
17	86412060	1	HARNESS, LOWER BRAKE		From SN (3*)
-	86362990	1	HARNESS, LOWER BRAKE		Prior to SN (3*)
18	86412050	1	HARNESS, LOWER TRACTION		From SN (3*)
-	86365410	1	HARNESS, LOWER TRACTION		Prior to SN (3*)

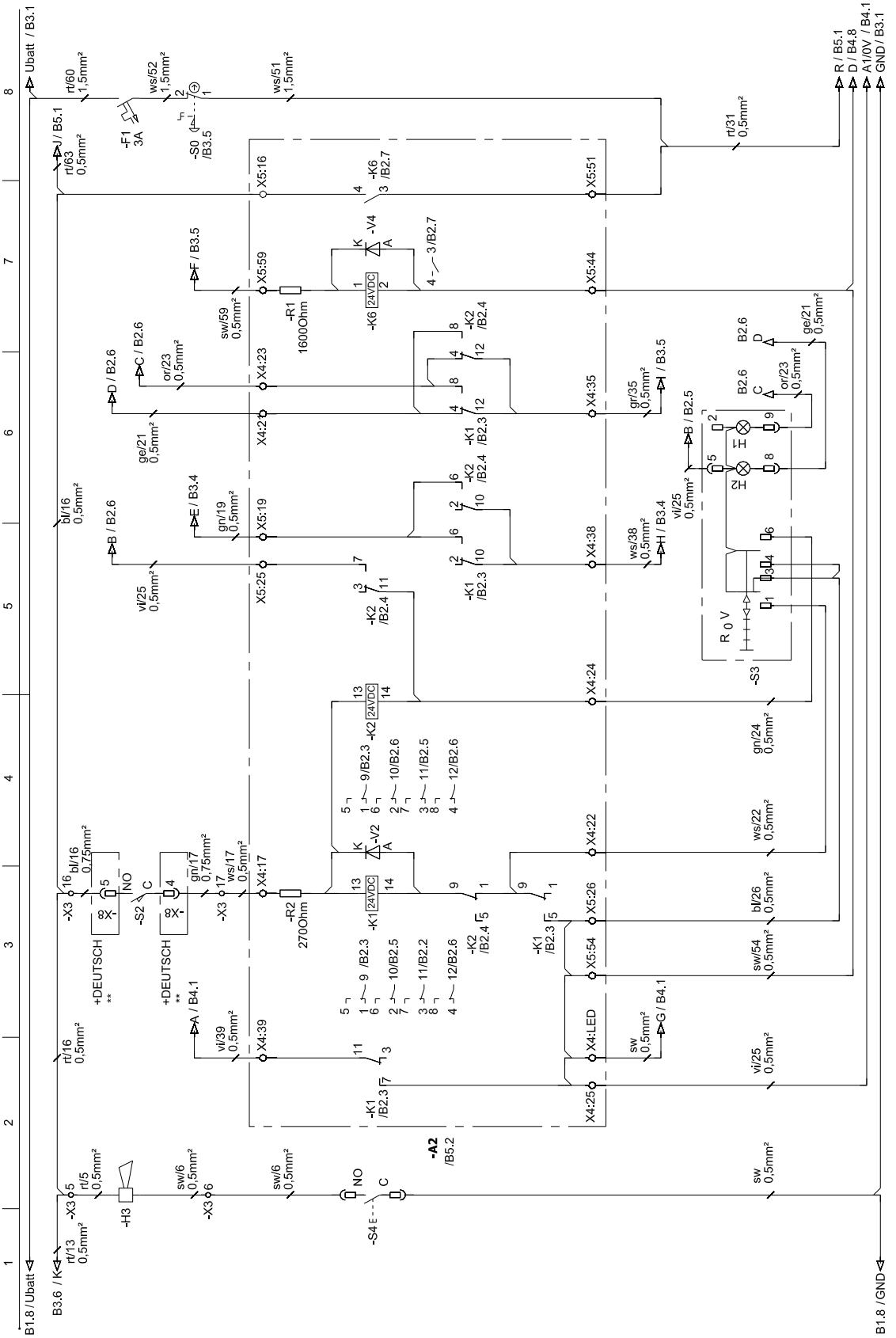

A1
A2
A3
S0
S1
S3
S4
S8
K1
K2
K4
K5
K6
F1
F2
P1
H4
H5
H6
X1
X2
X3
X4
X5
X12
GND
PWR
B+
B-
27/RT
28/SW
24/SW
23/WS
21/RT
22/SW
CONNECTOR X3 TO MAIN HARNESS
Aderfarben
Wire color
ro/rt
red
schwarz/sw
black
weiß/vs
white
braun/bn
brown
blau/bl
blue
gelb/ge
yellow
orange/or
orange
grau/gr
gray
grün/gn
green
violett/vt
violet
rosa/rs
pink

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES
1	86352310	1	HARNESS, I-DRIVE GND		

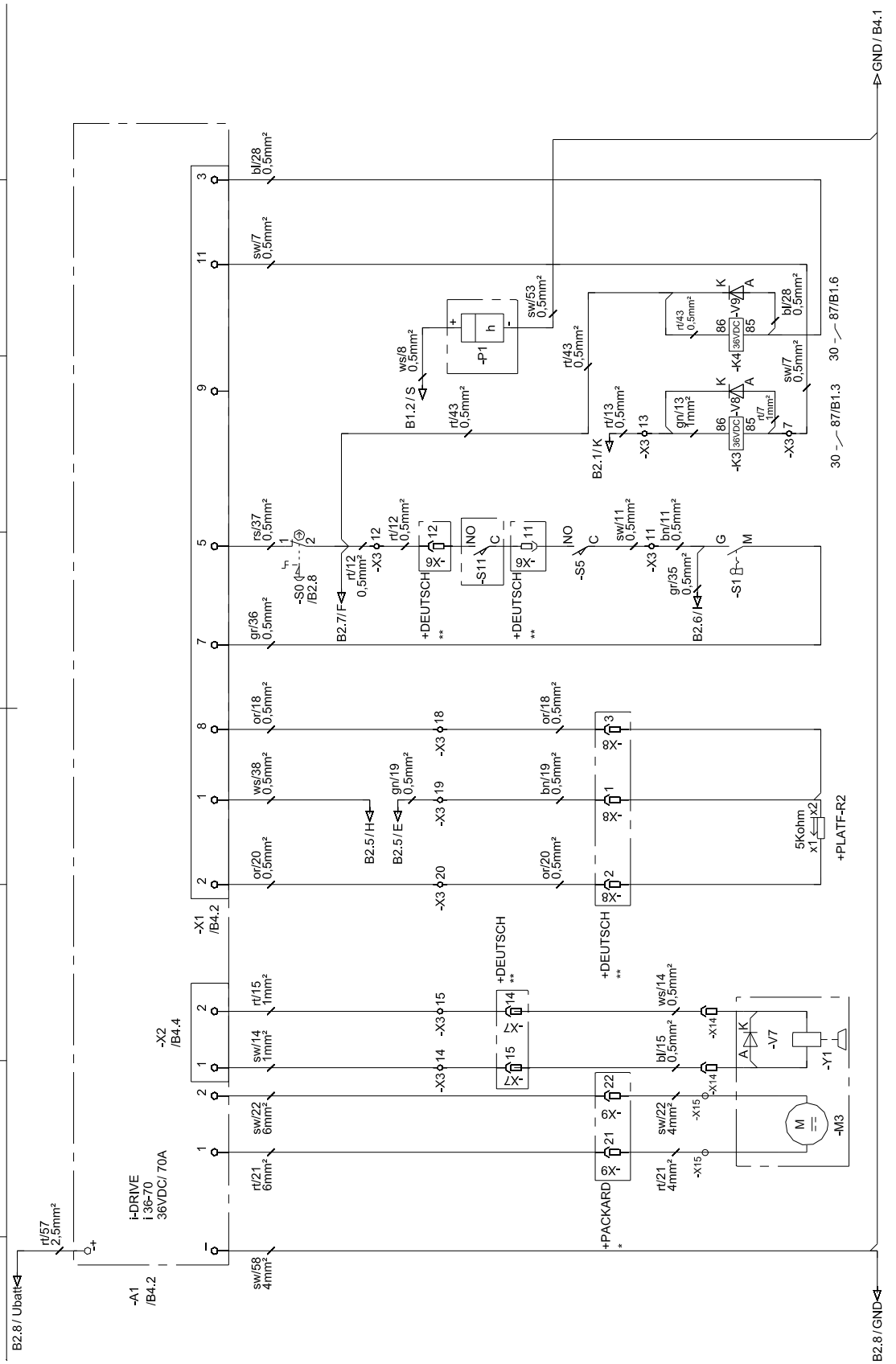
REF	DESCRIPTION
A1	DRIVE CONTROL
A2	RELAY BOARD
A3	PROCESSOR
F1	CIRCUIT BREAKER-DRIVE CONTROL
F2	CIRCUIT BREAKER-VACUUM MOTOR - OPTIONAL
F3	CIRCUIT BREAKER-BRUSH
G1-G3	BATTERY 12V
H1	SIGNAL LAMPS REVERSE DIRECTION
H2	SIGNAL LAMPS DIRECTION FORWARD
H3	HORN
H4	LED-BATT.
H5	LED
H6	LED
K1	RELAYS-REVERSE DIRECTION
K2	RELAYS DIRECTION FORWARD
K3	RELAYS BRUSH MOTOR
K4	RELAY VACUUM MOTOR - OPTIONAL
K5	RELAYS ACTUATOR
K6	RELAYS MAIN
M1	BRUSH MOTOR
M2	VACUUM MOTOR - OPTIONAL
M3	TRACTION MOTOR
M4	LINEAR ACTUATOR MOTOR BRUSH / SQUEEGEE
S0	EMERGENCY SWITCH
S1	KEYSWITCH
S2	MICROSWITCH-PLATFORM
S3	BUTTON REVERSE FORWARD
S4	HORN BUTTON
S5	MICROSWITCH-COVER
S8	PROGRAM SWITCH
S11	CHARGER
S12	BAG PRESENT
R1	SHUNT
P1	HOURS METER
V1-V2-V3-V4-V5-V6-V7-V8-V9-V10-V11-V12	DIODE
V-UP & V-DOWN	DIODE-MOTOR M4
X3	TERMINAL BLOCK
X12	TERMINAL BLOCK
** X6-X7-X8-X11	DEUTSCH CONNECTOR
* X9-X10-X13	PACKARD CONNECTOR
X14	FASTON TERMINAL
X15	RING TERMINAL
Y1	BRAKE


Ubatt / B2.1
GND / B2.1
Aderfarben
Wire color
rot/rt
red
schwarz/sw
black
weiß/ws
white
braun/br
brown
blau/bl
blue
gelb/ge
yellow
orange/or
orange
grau/gr
grey
grün/gn
green
violett/vi
violet
rosa/rs
pink
rt/45 1,5mm²
rt/46 1,5mm²
ws/23 1,5mm²
sw/24 1mm²
-V6
-K4 /B3.7
-F2 18A
-X13
+PACKARD
-M2
rt/27
-X3
/ B5.8
sw/69 1,5mm²
-V12
sw/70 1,5mm²
sw/1 0,5mm²
sw/2 0,5mm²
-R1 SHUNT
rt/1 10mm²
-V5
-K3 /B3.6
-F3 100A
-M1
B3.6/ S
sw/2 10mm²
-G1 12V/70Ah
-G2 12V/70Ah
-G3 12V/70Ah

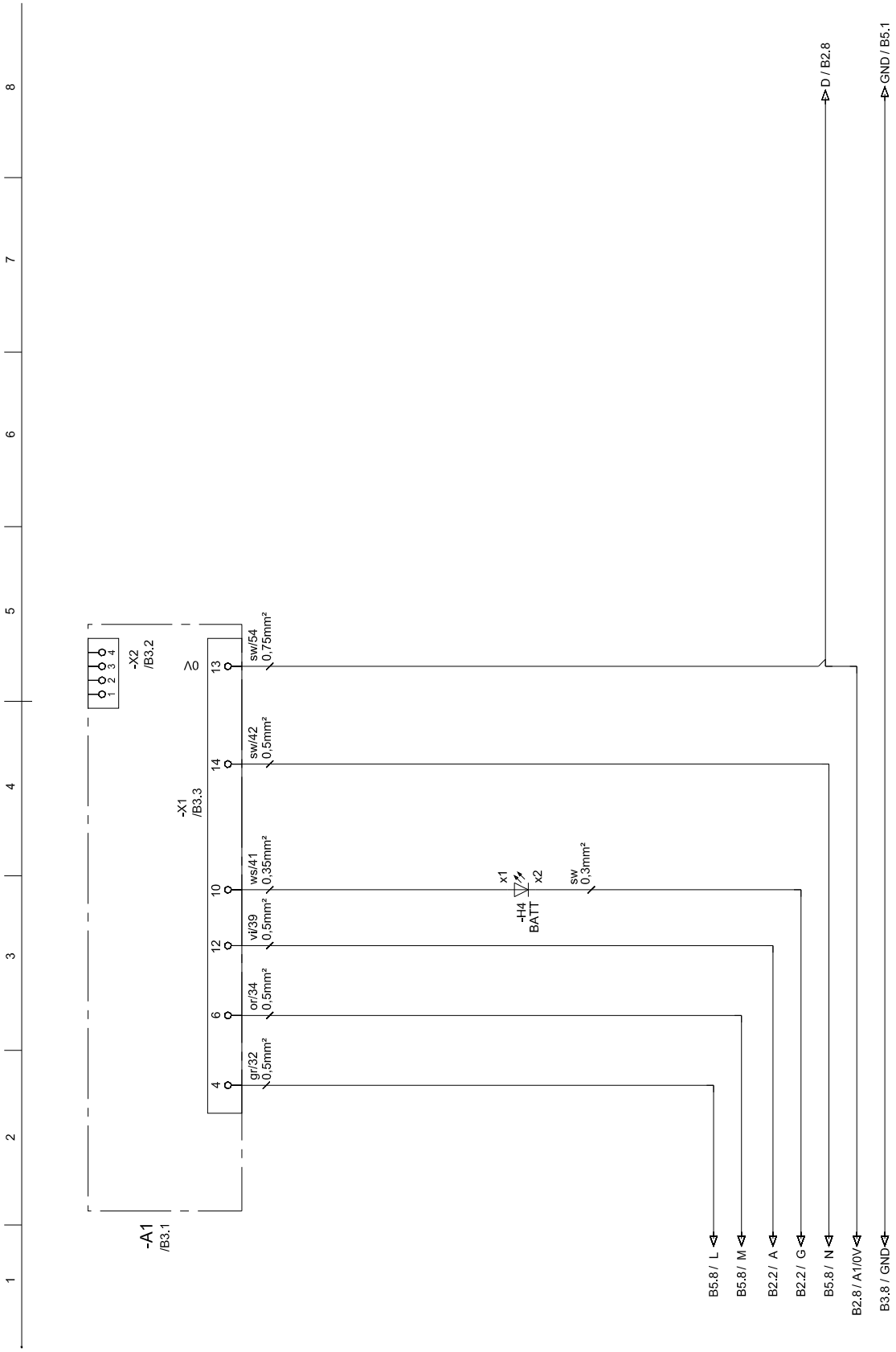
REF	DESCRIPTION
A1	DRIVE CONTROL
A2	RELAY BOARD
A3	PROCESSOR
F1	CIRCUIT BREAKER-DRIVE CONTROL
F2	CIRCUIT BREAKER-VACUUM MOTOR - OPTIONAL
F3	CIRCUIT BREAKER-BRUSH
G1-G3	BATTERY 12V
H1	SIGNAL LAMPS REVERSE DIRECTION
H2	SIGNAL LAMPS DIRECTION FORWARD
H3	HORN
H4	LED-BATT.
H5	LED
H6	LED
K1	RELAYS-REVERSE DIRECTION
K2	RELAYS DIRECTION FORWARD
K3	RELAYS BRUSH MOTOR
K4	RELAY VACUUM MOTOR - OPTIONAL
K5	RELAYS ACTUATOR
K6	RELAYS MAIN
M1	BRUSH MOTOR
M2	VACUUM MOTOR - OPTIONAL
M3	TRACTION MOTOR
M4	LINEAR ACTUATOR MOTOR BRUSH / SQUEEGEE
S0	EMERGENCY SWITCH
S1	KEYSWITCH
S2	MICROSWITCH-PLATFORM
S3	BUTTON REVERSE FORWARD
S4	HORN BUTTON
S5	MICROSWITCH-COVER
S8	PROGRAM SWITCH
S11	CHARGER
S12	BAG PRESENT
R1	SHUNT
P1	HOURS METER
V1-V2-V3-V4-V5-V6-V7-V8-V9-V10-V11-V12	DIODE
V-UP & V-DOWN	DIODE-MOTOR M4
X3	TERMINAL BLOCK
X12	TERMINAL BLOCK
** X6-X7-X8-X11	DEUTSCH CONNECTOR
* X9-X10-X13	PACKARD CONNECTOR
X14	FASTON TERMINAL
X15	RING TERMINAL
Y1	BRAKE


Ubatt / B3.1
B1.8 / Ubatt
B3.6 / K
B1.8 / GND
R / B5.1
D / B4.8
A1/0V / B4.1
GND / B3.1
-A2
/B5.2
-F1
3A
-S0
/B3.5
-S1
-S2
-S3
-S4
-H1
-H2
-H3
-R1
1600Ohm
-R2
270Ohm
-V2
-V4
-K1
/B2.3
-K2
/B2.4
-K6
/B2.7
+DEUTSCH
**
24VDC
NO
C
R 0 V
X3
X4:17
X4:23
X4:24
X4:35
X4:38
X4:39
X4:LED
X4:25
X4:26
X4:22
X5:16
X5:51
X5:59
X5:44
X5:19
X5:25
X5:54
rt/60 1,5mm²
ws/52 1,5mm²
ws/51 1,5mm²
rt/31 0,5mm²
rt/63 0,5mm²
sw/59 0,5mm²
or/23 0,5mm²
ge/21 0,5mm²
gr/35 0,5mm²
vi/25 0,5mm²
ws/38 0,5mm²
gn/19 0,5mm²
bl/16 0,5mm²
bl/16 0,75mm²
gn/17 0,75mm²
ws/17 0,5mm²
rt/16 0,5mm²
vi/39 0,5mm²
rt/5 0,5mm²
sw/6 0,5mm²
sw 0,5mm²
gn/24 0,5mm²
ws/22 0,5mm²
bl/26 0,5mm²
sw/54 0,5mm²
B2.6
B2.5
B3.4
B3.5
B4.1
B5.1
C / B2.6
D / B2.6
E / B3.4
F / B3.5
G / B4.1
H / B3.4
A / B4.1
I / B5.1
9/B2.3
10/B2.6
11/B2.5
12/B2.6
10/B2.5
11/B2.2
12/B2.6
9 /B2.3

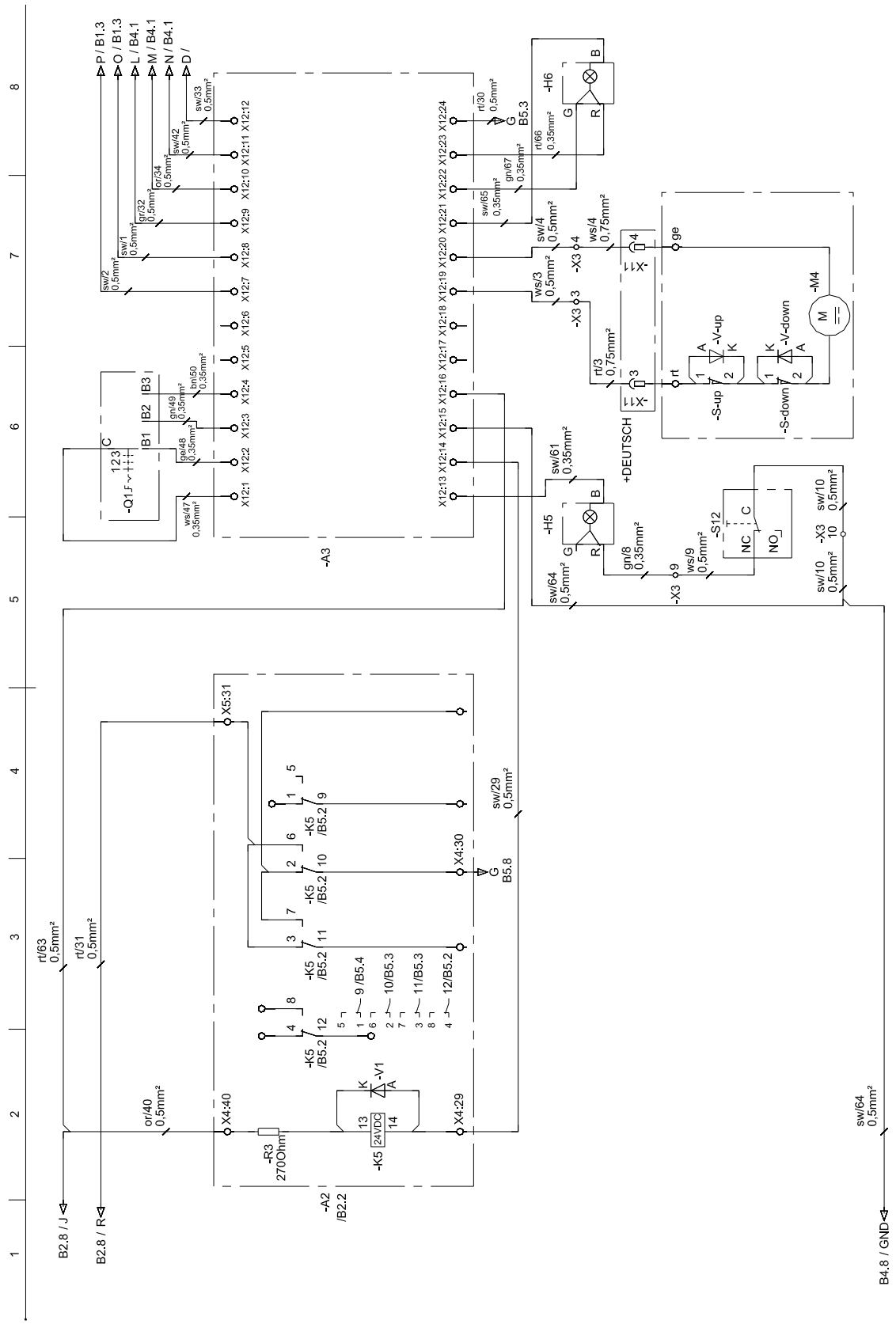
REF	DESCRIPTION
A1	DRIVE CONTROL
A2	RELAY BOARD
A3	PROCESSOR
F1	CIRCUIT BREAKER-DRIVE CONTROL
F2	CIRCUIT BREAKER-VACUUM MOTOR - OPTIONAL
F3	CIRCUIT BREAKER-BRUSH
G1-G3	BATTERY 12V
H1	SIGNAL LAMPS REVERSE DIRECTION
H2	SIGNAL LAMPS DIRECTION FORWARD
H3	HORN
H4	LED-BATT.
H5	LED
H6	LED
K1	RELAYS-REVERSE DIRECTION
K2	RELAYS DIRECTION FORWARD
K3	RELAYS BRUSH MOTOR
K4	RELAY VACUUM MOTOR - OPTIONAL
K5	RELAYS ACTUATOR
K6	RELAYS MAIN
M1	BRUSH MOTOR
M2	VACUUM MOTOR - OPTIONAL
M3	TRACTION MOTOR
M4	LINEAR ACTUATOR MOTOR BRUSH / SQUEEGEE
S0	EMERGENCY SWITCH
S1	KEYSWITCH
S2	MICROSWITCH-PLATFORM
S3	BUTTON REVERSE FORWARD
S4	HORN BUTTON
S5	MICROSWITCH-COVER
S8	PROGRAM SWITCH
S11	CHARGER
S12	BAG PRESENT
R1	SHUNT
P1	HOURS METER
V1-V2-V3-V4-V5-V6-V7-V8-V9-V10-V11-V12	DIODE
V-UP & V-DOWN	DIODE-MOTOR M4
X3	TERMINAL BLOCK
X12	TERMINAL BLOCK
** X6-X7-X8-X11	DEUTSCH CONNECTOR
* X9-X10-X13	PACKARD CONNECTOR
X14	FASTON TERMINAL
X15	RING TERMINAL
Y1	BRAKE


B2.8 / Ubatt
B2.8 / GND
GND / B4.1
-A1 /B4.2
i-DRIVE i 36-70 36VDC/ 70A
-X1 /B4.2
-X2 /B4.4
+PACKARD *
+DEUTSCH **
+PLATF-R2
5Kohm
-M3
-Y1
-V7
-V8
-V9
-K3
-K4
-P1
-S0 /B2.8
-S1
-S5
-S11
B2.7 / F
B2.6 / K
B2.5 / H
B2.5 / E
B1.2 / S
B2.1 / K
87/B1.3
87/B1.6

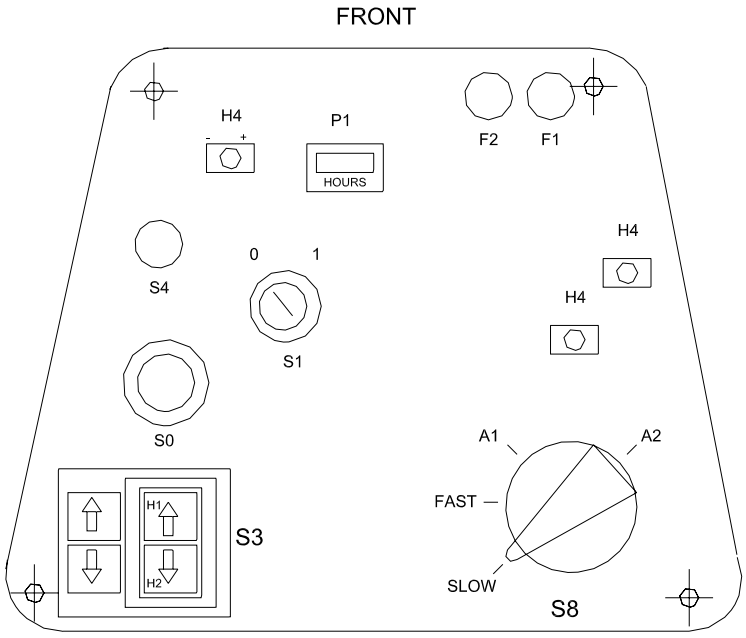
REF	DESCRIPTION
A1	DRIVE CONTROL
A2	RELAY BOARD
A3	PROCESSOR
F1	CIRCUIT BREAKER-DRIVE CONTROL
F2	CIRCUIT BREAKER-VACUUM MOTOR - OPTIONAL
F3	CIRCUIT BREAKER-BRUSH
G1-G3	BATTERY 12V
H1	SIGNAL LAMPS REVERSE DIRECTION
H2	SIGNAL LAMPS DIRECTION FORWARD
H3	HORN
H4	LED-BATT.
H5	LED
H6	LED
K1	RELAYS-REVERSE DIRECTION
K2	RELAYS DIRECTION FORWARD
K3	RELAYS BRUSH MOTOR
K4	RELAY VACUUM MOTOR - OPTIONAL
K5	RELAYS ACTUATOR
K6	RELAYS MAIN
M1	BRUSH MOTOR
M2	VACUUM MOTOR - OPTIONAL
M3	TRACTION MOTOR
M4	LINEAR ACTUATOR MOTOR BRUSH / SQUEEGEE
S0	EMERGENCY SWITCH
S1	KEYSWITCH
S2	MICROSWITCH-PLATFORM
S3	BUTTON REVERSE FORWARD
S4	HORN BUTTON
S5	MICROSWITCH-COVER
S8	PROGRAM SWITCH
S11	CHARGER
S12	BAG PRESENT
R1	SHUNT
P1	HOURS METER
V1-V2-V3-V4-V5-V6-V7-V8-V9-V10-V11-V12	DIODE
V-UP & V-DOWN	DIODE-MOTOR M4
X3	TERMINAL BLOCK
X12	TERMINAL BLOCK
** X6-X7-X8-X11	DEUTSCH CONNECTOR
* X9-X10-X13	PACKARD CONNECTOR
X14	FASTON TERMINAL
X15	RING TERMINAL
Y1	BRAKE

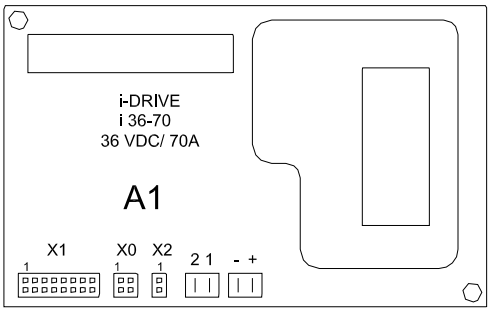

1
2
3
4
5
6
7
8
-A1
/B3.1
-X2
/B3.2
1 2 3 4
-X1
/B3.3
13
14
10
12
6
4
sw/54
0,75mm²
sw/42
0,5mm²
ws/41
0,35mm²
vi/39
0,5mm²
or/34
0,5mm²
gr/32
0,5mm²
-H4
BATT
x1
x2
sw
0,3mm²
D / B2.8
GND / B5.1
B5.8 / L
B5.8 / M
B2.2 / A
B2.2 / G
B5.8 / N
B2.8 / A1/0V
B3.8 / GND

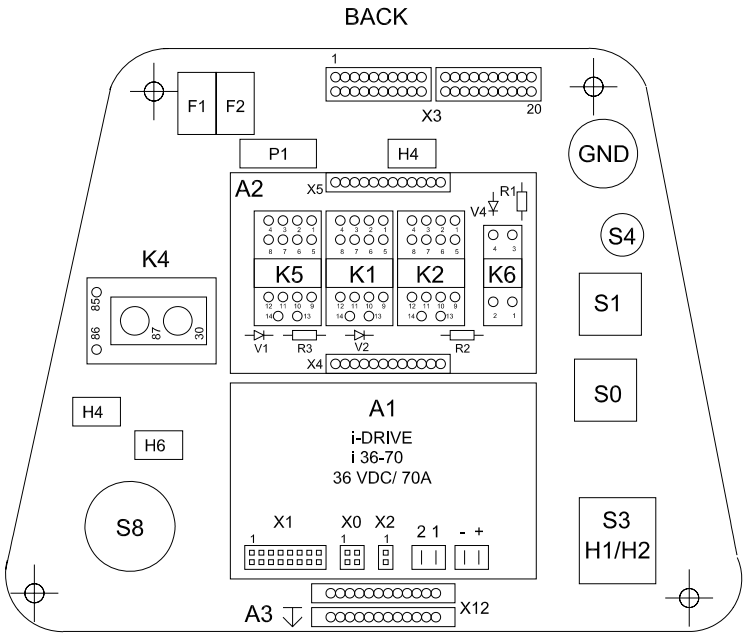
REF	DESCRIPTION
A1	DRIVE CONTROL
A2	RELAY BOARD
A3	PROCESSOR
F1	CIRCUIT BREAKER-DRIVE CONTROL
F2	CIRCUIT BREAKER-VACUUM MOTOR - OPTIONAL
F3	CIRCUIT BREAKER-BRUSH
G1-G3	BATTERY 12V
H1	SIGNAL LAMPS REVERSE DIRECTION
H2	SIGNAL LAMPS DIRECTION FORWARD
H3	HORN
H4	LED-BATT.
H5	LED
H6	LED
K1	RELAYS-REVERSE DIRECTION
K2	RELAYS DIRECTION FORWARD
K3	RELAYS BRUSH MOTOR
K4	RELAY VACUUM MOTOR - OPTIONAL
K5	RELAYS ACTUATOR
K6	RELAYS MAIN
M1	BRUSH MOTOR
M2	VACUUM MOTOR - OPTIONAL
M3	TRACTION MOTOR
M4	LINEAR ACTUATOR MOTOR BRUSH / SQUEEGEE
S0	EMERGENCY SWITCH
S1	KEYSWITCH
S2	MICROSWITCH-PLATFORM
S3	BUTTON REVERSE FORWARD
S4	HORN BUTTON
S5	MICROSWITCH-COVER
S8	PROGRAM SWITCH
S11	CHARGER
S12	BAG PRESENT
R1	SHUNT
P1	HOURS METER
V1-V2-V3-V4-V5-V6-V7-V8-V9-V10-V11-V12	DIODE
V-UP & V-DOWN	DIODE-MOTOR M4
X3	TERMINAL BLOCK
X12	TERMINAL BLOCK
** X6-X7-X8-X11	DEUTSCH CONNECTOR
* X9-X10-X13	PACKARD CONNECTOR
X14	FASTON TERMINAL
X15	RING TERMINAL
Y1	BRAKE


P / B1.3
O / B1.3
L / B4.1
M / B4.1
N / B4.1
D /
-A3
-Q1
-A2
/B2.2
-R3
270Ohm
-K5
-V1
-H5
-H6
-M4
-S12
-S-up
-S-down
-V-up
-V-down
+DEUTSCH
B2.8 / J
B2.8 / R
B4.8 / GND
X4:40
X4:29
X4:30
X5:31
X12:1
X12:2
X12:3
X12:4
X12:5
X12:6
X12:7
X12:8
X12:9
X12:10
X12:11
X12:12
X12:13
X12:14
X12:15
X12:16
X12:17
X12:18
X12:19
X12:20
X12:21
X12:22
X12:23
X12:24
rt/63 0,5mm²
rt/31 0,5mm²
or/40 0,5mm²
sw/29 0,5mm²
sw/64 0,5mm²
sw/61 0,35mm²
gn/8 0,35mm²
ws/9 0,5mm²
sw/10 0,5mm²
rt/3 0,75mm²
ws/3 0,5mm²
sw/4 0,5mm²
ws/4 0,75mm²
ge
rt
NC
NO
/B5.4
10/B5.3
11/B5.3
12/B5.2

REF	DESCRIPTION
A1	DRIVE CONTROL
A2	RELAY BOARD
A3	PROCESSOR
F1	CIRCUIT BREAKER-DRIVE CONTROL
F2	CIRCUIT BREAKER-VACUUM MOTOR - OPTIONAL
F3	CIRCUIT BREAKER-BRUSH
G1-G3	BATTERY 12V
H1	SIGNAL LAMPS REVERSE DIRECTION
H2	SIGNAL LAMPS DIRECTION FORWARD
H3	HORN
H4	LED-BATT.
H5	LED
H6	LED
K1	RELAYS-REVERSE DIRECTION
K2	RELAYS DIRECTION FORWARD
K3	RELAYS BRUSH MOTOR
K4	RELAY VACUUM MOTOR - OPTIONAL
K5	RELAYS ACTUATOR
K6	RELAYS MAIN
M1	BRUSH MOTOR
M2	VACUUM MOTOR - OPTIONAL
M3	TRACTION MOTOR
M4	LINEAR ACTUATOR MOTOR BRUSH / SQUEEGEE
S0	EMERGENCY SWITCH
S1	KEYSWITCH
S2	MICROSWITCH-PLATFORM
S3	BUTTON REVERSE FORWARD
S4	HORN BUTTON
S5	MICROSWITCH-COVER
S8	PROGRAM SWITCH
S11	CHARGER
S12	BAG PRESENT
R1	SHUNT
P1	HOURS METER
V1-V2-V3-V4-V5-V6-V7-V8-V9-V10-V11-V12	DIODE
V-UP & V-DOWN	DIODE-MOTOR M4
X3	TERMINAL BLOCK
X12	TERMINAL BLOCK
** X6-X7-X8-X11	DEUTSCH CONNECTOR
* X9-X10-X13	PACKARD CONNECTOR
X14	FASTON TERMINAL
X15	RING TERMINAL
Y1	BRAKE


FRONT
H4
P1
HOURS
F2
F1
S4
0
1
S1
H4
H4
S0
A1
A2
FAST
SLOW
S8
H1
H2
S3


i-DRIVE
i 36-70
36 VDC/ 70A
A1
X1
X0
X2
2 1
- +


BACK
F1
F2
X3
P1
H4
GND
A2
X5
R1
V4
S4
K4
K5
K1
K2
K6
S1
V1
R3
V2
R2
X4
S0
H4
H6
A1
i-DRIVE
i 36-70
36 VDC/ 70A
S8
X1
X0
X2
2 1
- +
S3
H1/H2
A3
X12

REF	DESCRIPTION
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P1	HOURS METER
V1-V2-V3-V4-V5-V6-V7-V8-V9-V10-V11-V12	DIODE
V-UP & V-DOWN	DIODE-MOTOR M4
X3	TERMINAL BLOCK
X12	TERMINAL BLOCK
** X6-X7-X8-X11	DEUTSCH CONNECTOR
* X9-X10-X13	PACKARD CONNECTOR
X14	FASTON TERMINAL
X15	RING TERMINAL
Y1	BRAKE

REF. NO.	MODEL: SERIAL #
1	10020310000177, 10020320000095, 10020330000083, 10020340000053, 10020350000188, 10020360100300
2	10020310000181, 10020320000100, 10020330000092, 10020340000056, 10020350000196, 10020360100317
3	10020310000235, 10020320000158, 10020330000114, 10020340000082, 10020350000220, 10020360100357
4	10020310000244, 10020320000158, 10020330000114, 10020340000085, 10020350000227, 10020360100360
5	RESERVED