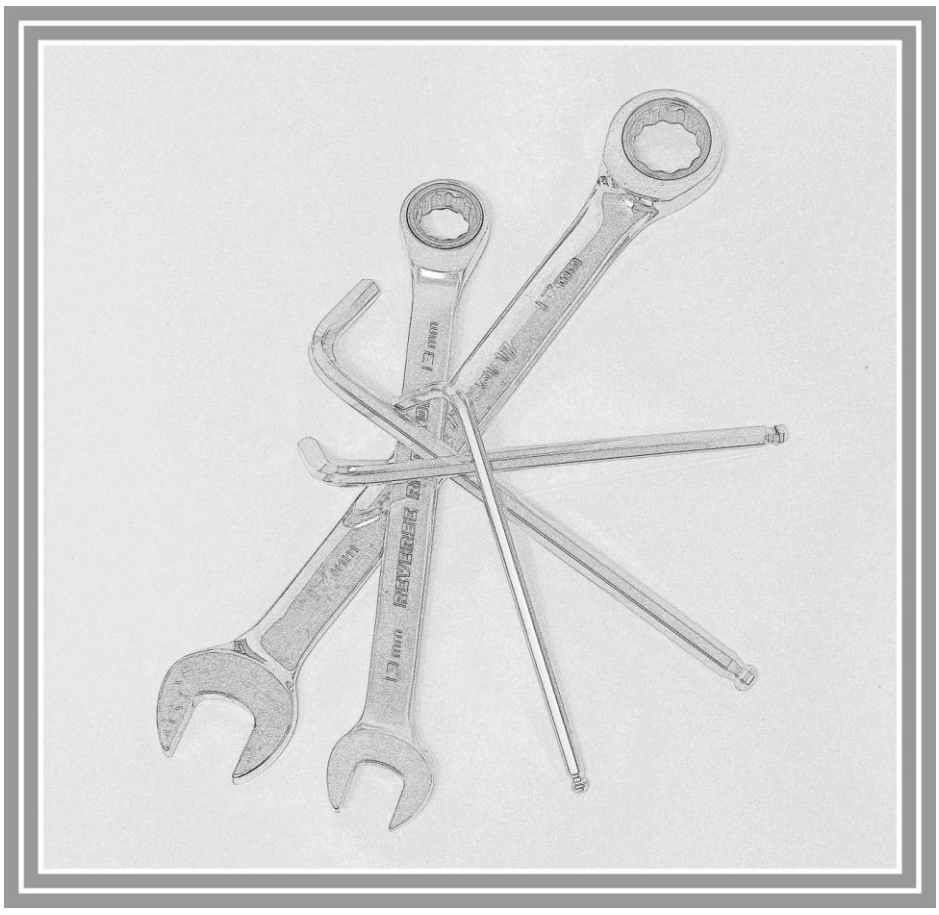
TAIQ



SERVICE MANUAL

Ver. 1.3

CONTENTS

INTRODUCTION

This service manual is for TA iQ Power wheelchair

- Photographs and content may differ from the actual products in some cases due to changes in specifications and development.

- This Service Manual is intended for use by persons with the knowledge and the skills required in servicing and maintaining Power Wheelchairs.

Persons without that knowledge and expertise in the servicing of this product should not carry out troubleshooting procedures. This can result in problems with future servicing, and/or damage to the unit. In that case TA Service A/S is not liable for any personal injury or damage to property resulting from improper use.

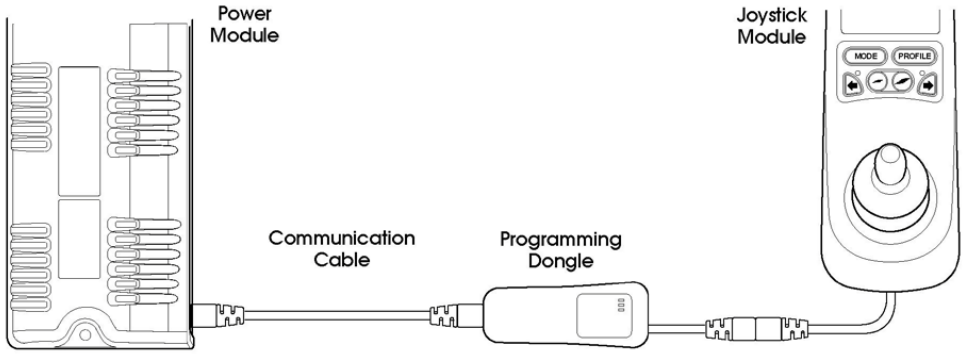
PROGRAMMING

The control system can be programmed to meet the user needs. Programming can be performed using the OBP (On-board Programming) feature or the specialist R-net software and Dongle or the Diagnostic Test Tool (DTT).
! Programming should only be conducted by healthcare professionals with in-depth knowledge of PGDT electronic control systems. Incorrect programming could result in an unsafe set-up of a wheelchair for a user. TA Service A/S accepts no liability for losses of any kind if the programming of the control system is altered from factory preset values.

On-Board Programming (OBP) allows the wheelchair to be programmed, via the Joystick Module, to suit an individual user.

! OBP is not possible using an LED Joystick Module.

A OBP Dongle needs to be connected to allow access to OBP. To use the dongle, follow the sequence below:
- Turn off the control system.
- Insert the R-net Dongle along the communication cables in the system configuration.
- Turn on the control system
- After initialization press the Mode key until the OBP screen is reached.



For more detail about programming contact TA. Service or your local dealer

PARAMETERS TO BE PROGRAMMED BY OBP

Speeds

Forward

Fwd Accel Max	Sets maximum forward acceleration
Fwd Accel Min	Sets minimum forward acceleration
Fwd Decel Min	Sets maximum forward deceleration
Fwd Decel Max	Sets minimum forward deceleration
Fwd Speed Max	Sets maximum forward speed
Fwd Speed Min	Sets minimum forward speed

Reverse

Rev Accel Max	Sets maximum reverse acceleration
Rev Accel Min	Sets minimum reverse acceleration
Rev Decel Min	Sets maximum reverse deceleration
Rev Decel Max	Sets minimum reverse deceleration
Rev Speed Max	Sets maximum reverse speed
Rev Speed Min	Sets minimum reverse speed

Turn

Turn Accel Max	Sets maximum turning acceleration
Turn Accel Min	Sets minimum turning acceleration
Turn Decel Min	Sets maximum turning deceleration
Turn Decel Max	Sets minimum turning deceleration
Turn Speed Max	Sets maximum turning speed
Turn Speed Min	Sets minimum turning speed

Drive

Power	Reduces power to minimize risk of indoor fittings damage
Torque	Torque boost to overcome obstacles at low speed settings
Tremor Damping	Adjustable damping to reduce the effect of hand tremor

Controls

Global Controls

Steer Correct	Adjusts the PM output's to compensate for mis-matched motors
Sounder Volume	Sets volume of audible feedback from JSM.
Endstop Bleep	Sets whether there is a bleep when a seat axis reaches endstop
Act. Entry Axis	Sets the default axis when seat control mode is entered
Chge Prf in Drv	Sets whether profile changes are permissible while driving
Speed Adjust	Sets whether the speed buttons on the JSM are active
Spd Adj in Drv	Sets whether speed setting changes are permissible while driving
Momentary Screens	Sets whether large screens appear at profile and speed changes
Rev Driving Alarm	Sets if the reverse driving alarm is active
Emergency Stop	Allows latched operation without the use of an Em Stop switch
Lock Fn Enabled	Sets how the lock function is activated
Power Up Mode	This sets the Mode that will be active when the system is powered-up.
Display Speed	Sets how the speedometer is displayed in miles per hour or kilometers per hour
Max Display Speed	This sets the operation of the graphical speed display

Profiled Controls

Sleep Timer	Sets the time of inactivity before the system goes to sleep
Chge Mde in Drv	Sets whether mode changes are permissible while driving
Background	Sets the default background for each profile

Joystick

Active Throw	Sets joystick throw via joystick movements
Throw Detail	Sets joystick throw via programming
Active Orientation	Sets joystick orientation via joystick movements
Orientation Detail	Sets joystick orientation via programming
Deadband	Sets the joystick deadband (size of neutral position)
Standby	
Switch to Stdby	Sets whether an external button can be used to enter Standby Mode
Standby Time	Sets the time of inactivity before Standby Mode is entered
Mode Select	Sets whether other modes can be selected from Standby Mode
Remote Select	Sets whether a profile can be selected from Standby Mode
Latched	
Drive	Selects latched drive operation
Actuators	Selects latched actuator operation
Timeout	Sets the timeout period for latched operation
Timeout Bleep	Sets whether a bleep occurs as the timeout period approaches
ISM Actuators	
Up Speed	Sets actuator speed in the up direction
Down Speed	Sets actuator speed in the down direction
Acceleration	Sets actuator acceleration
Deceleration	Sets actuator deceleration
SM Actuators	
Actuator Mode Entry Axis	Sets the default axis when Seating Mode is entered
Up Speed	Sets actuator axis speed in the up direction
Down Speed	Sets actuator axis speed in the down direction
Profiles	
Profile Enable	Sets which Profiles are available to the user
Modes	
Modes	Sets which Modes are available to in each Profile
Input Devices	
ID Type	Sets which Input Device controls a Profile
System	
Diagnostics	Accesses the system's error logs
Timers	Accesses the system's run timer
Joystick Calibration	Automatic joystick calibration procedure
Copy Profile	Utility to copy one profile to another
Load Presets	Restores factory preset values
Adjust Contrast	Adjusts the contrast of the LCD screen

SAFETY CHECKS

The electronic circuits in your control system have been designed to be extremely safe and reliable. The on-board microcomputer carries out safety checks at up to 100 times per second. To supplement this safety monitoring you should carry out the following periodic checks.
If the control system fails any of these checks, do not use the wheelchair and contact your service agent.

DAILY CHECKS

Joystick: With the control system switched off, check that the joystick is not bent or damaged and that it returns to the center when you push and release it. If there is a problem do not continue with the safety checks and contact TA Service or your service agent.

WEEKLY CHECKS

Parking brake: This test should be carried out on a level floor with at least one meter clear space around the wheelchair.
Switch on the control system.
Check that the screen remains on after initialization and that the battery gauge is displaying a reasonable amount of charge.
Push the joystick slowly forwards until you hear the parking brakes operate. The chair may start to move.
Immediately release the joystick. You must be able to hear each parking brake operate within a few seconds.
Repeat the test a further three times, pushing the joystick slowly backwards, left and right.

Connectors: Make sure that all connectors are securely mated.

Cables: Check the condition of all cables and connectors for damage.

Joystick gaiter: Check the thin rubber gaiter or boot, around the base of the joystick shaft, for damage or splitting, check visually only, do not handle the gaiter.

Mounting: Make sure that all the components of the control system are securely mounted. Do not overtighten any securing screws.

SERVICING

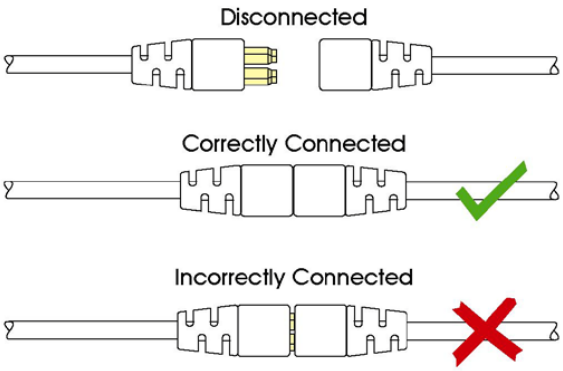
To ensure continued satisfactory service, we suggest you have your wheelchair and control system inspected by your service agent after a period of 1 year from commencement of service. Contact your service agent for details when the inspection is due.

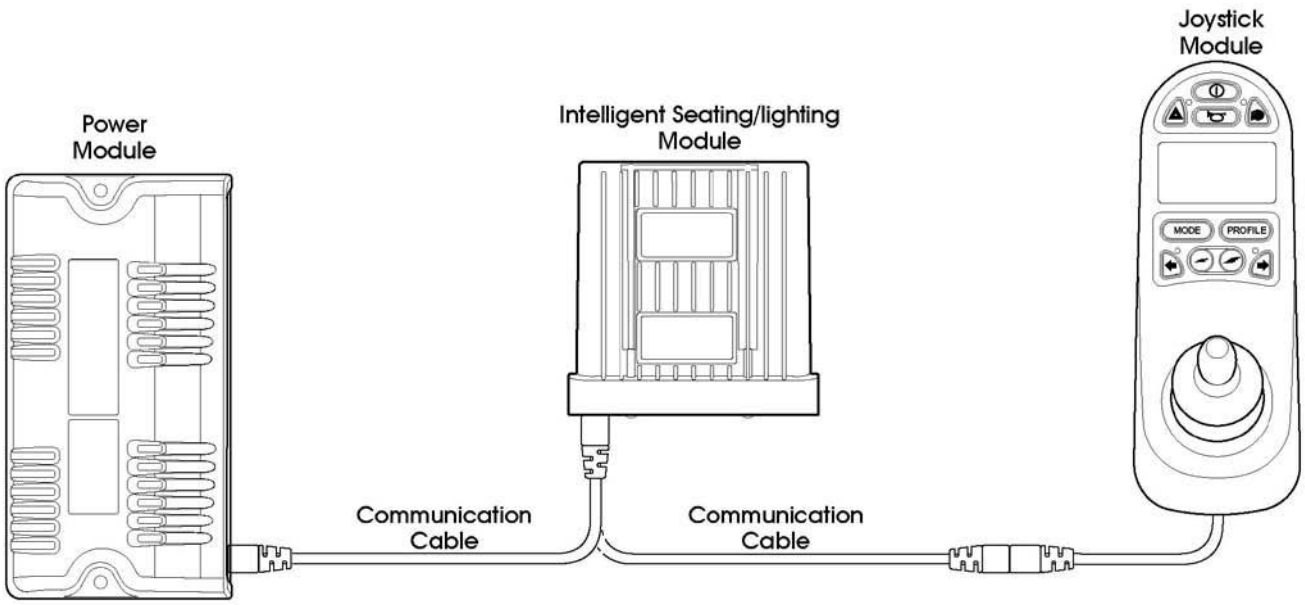
CONTROLL SYSTEM

MODULE WIRING

The Modules are connected to each other with a Communication Cable.
To connect the Communication Cables:
• Holding the connector housing, firmly push the connector into its mate until you can no longer see the yellow plastic.

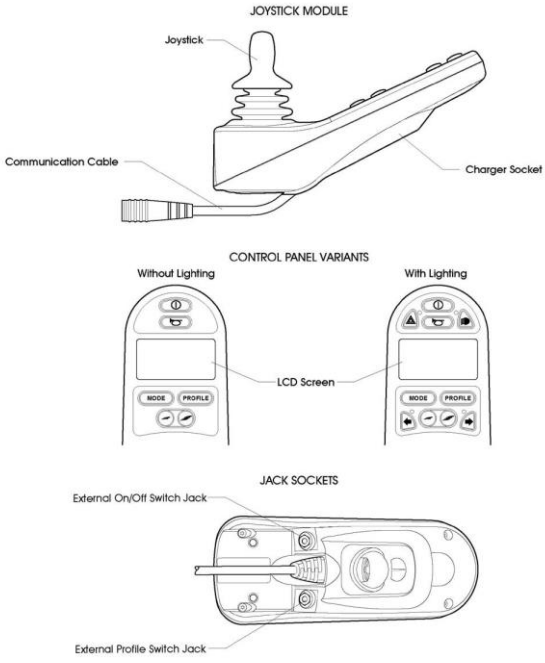
The connectors are secured using a friction system.
To disconnect the Communication Cables:
• Holding the connector housing firmly, pull the connectors apart.





! The setup might be different, depending on the configuration.

JOYSTICK MODULE

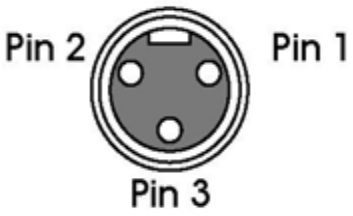


For information about the symbols and operating of the joystick controller refer to the user manual

CHARGER CONNECTOR

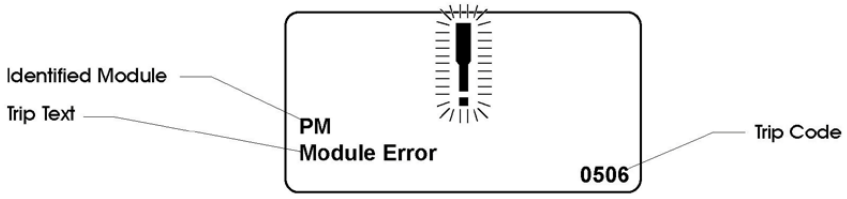
The charger can be connected to the Joystick Module's charger connector. The charger connector is Neutrik 3 pin type NC3FPP or equivalent. Only chargers fitted with Neutrik NC3MX plugs and approved by TA Service or Dealers of TA Service should be connected into the Joystick Module. The pin connections of the charging socket are as below.

Pin	Connection
1	Battery Positive
2	Battery Negative
3	Inhibit



DIAGNOSTIC SCREEN

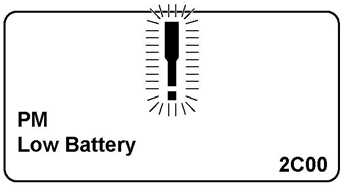
When the control system safety circuits have operated and the control system has been prevented from moving the wheelchair a diagnostics screen will be displayed.
This indicates a system trip, i.e. the R-net has detected a problem somewhere in the wheelchair's electrical system.



If the error is in a non-active module, for example in the ISM but with a drive Profile is selected, then drive will still be possible, however, the diagnostic screen will appear intermittently.

Identified Module
This identifies which module of the control system has registered the problem, such as:
PM Power Module
JSM Joystick Module
ISM Intelligent Seating/lighting Module
Trip Text
The Trip Text gives a brief description of the trip type.
Trip Code
The 4 digit code displayed gives the exact trip that has been recorded.
Diagnostic Procedure
Please follow this procedure:
• Read and note the Trip Text displayed, the identified Module and the Trip Code.
• Switch off the control system.

Make sure that all connectors on the listed Module and the wheelchair are mated securely.
• Check the condition of the battery.
• Note the Trip Text description, and take the required action.
• Switch on the control system again and try to drive the wheelchair. If the safety circuits operate again, switch off and do not try to use the wheelchair. Contact TA Service or your service agent.
Example:



Identified Module Power Module.
Trip Text Low Battery
Trip Code 2C00
This means the battery needs charging or there is a bad connection to the battery.
• Check the connections to the battery. If the connections are good, try charging the battery.

DIAGNOSTIC TEXT DEFINITIONS

Once a trip text and module have been established use the following definitions to ascertain the possible cause and required corrective procedure.

Center Joystick
The most common cause of this trip is if the joystick is deflected away from center before and during the time the control system is switched on. The joystick displaced screen will be displayed for 5 seconds, if the joystick is not released within that time then a trip is registered.
• Ensure that the joystick is centered and power-up the control system.
If the trip is still present then the joystick or Joystick Module may be defective.

Low Battery
This occurs when the control system detects that the battery voltage has fallen below 16V.
• Check the condition of the batteries and the connections to the control system.
If the trip is still present after the batteries and connections have been checked, then the Power Module may be defective.

High Battery Voltage
This occurs when the control system detects that the battery voltage has risen above 35V. The most common reasons for this are overcharging of the battery or bad connections between the control system and the batteries.
• Check the condition of the batteries and the connections to the control system.
If the trip is still present after the batteries and connections have been checked, then the Power Module may be defective.

Brake Error
This occurs when the control system detects a problem in the solenoid brakes or the connections to them.
1505 - M1 Brake Error - Refer to section 2.3 for connection details
1506 - M2 Brake Error - Refer to section 2.3 for connection details
• Check the solenoid brakes, cables and connections to the control system.
If the trip is still present after the above checks have been made, then the Power Module may be defective.

Motor Error
This occurs when the control system detects that a motor has become disconnected.
3B00 - M1 Motor Error - Refer to section 2.3 for connection details
3C00 - M2 Motor Error - Refer to section 2.3 for connection details
• Check the motors, cables and connections to the control system.
If the trip is still present after the above checks have been made, then the Power Module may be defective.

Inhibit Active
This occurs when any of the Inhibit inputs are active and in a latched state.
The actual inhibit that is active is indicated by the last 2 digits in the Trip Code. The code is in Hex.
1E01 - For Inhibit 1 – Off-Board Charger is connected.
1E20 - For Inhibit 2 –
1E21 - For Inhibit 3 -
1E22 - For Inhibit 4 -
1E23 - For Inhibit 5 -
• Cycle the power. This will drop out of Latched Mode that might clear the trip.
• Check all wiring and switches connected to the indicated Inhibits.
If the trip is still present after the above checks have been made, then the PM or ISM may be defective.

Joystick Calibration Error
This occurs when the Joystick Calibration process has not been successful.
• Enter OBP and attempt calibration.
If the trip is still present after the above has been attempted, then the Joystick Module may be defective.

Brake Lamp Short
This occurs when the control system detects a short in the Brake Lamp Circuit.
• Check the brake lamps, cables and connections to the control system.
If the trip is still present after the above checks have been made, then the ISM may be defective.

Lamp Short
This occurs when the control system detects a short in either of the Lamp Circuits.
7205 - Left Lamp Short
7209 - Right Lamp Short
• Check the lamps, cables and connections to the control system.
If the trip is still present after the above checks have been made, then the ISM may be defective.

Indicator Lamp Short
This occurs when the control system detects a short in either of the Indicator Circuits.
7206 - Left Indicator Short
720A - Right Indicator Short
• Check the indicators, cables and connections to the control system.
If the trip is still present after the above checks have been made, then the ISM may be defective.

Indicator Lamp Failed
This occurs when the control system detects a failure in either of the Indicator Circuits. This is most likely to be an indicator bulb failure. 7207 - Left Indicator Failed
7208 - Right Indicator Failed
• Check the indicator bulbs, cables and connections to the control system.
If the trip is still present after the above checks have been made, then the ISM may be defective.

Over-current
This occurs when the control system detects an excessive amount of current in an Actuator Channel.
This may be due to a faulty endstop switch, actuator motor, cables or connections.
• Check the movement of the actuator is not obstructed.

• Check the endstop switches (if fitted) are terminating the power to the actuator motor.
If the trip is still present after the above checks have been made, then the SM or ISM may be defective.

Overtemp (acts)
This occurs when the control system detects that the SM or ISM's actuator circuitry has become too hot. The control system will cease drive to the actuator motor in question.
• Allow the SM or ISM to cool.

• If the SM or ISM is frequently overheating check the condition of the actuator motors and the connections to them.

• If the trip persists contact TA Service or your service agent.

Overtemp (lamps)
This occurs when the control system detects that the ISM's lighting circuitry has become too hot. The control system will cease supplying current to the lamp in question.
• Allow the ISM to cool.

• If the ISM is frequently overheating check the condition of all the connected bulbs and lamps.

• If the trip persists contact your service agent.

DIME Error
This occurs when the control system detects an identification conflict between two modules in the system.
If a new module has been introduced:
• Disconnect the new module and cycle the power.

• If no trip is present connect the new module to the system and cycle the power.

• If the trip reappears then the new module must be the cause of the problem.

If there have been no additions:
• Disconnect one module at a time and cycle the power.

If the trip is still present after the above checks have been made, contact TA Service or your service agent.

Memory Error
This is a non-specific memory error that could be caused by any of the modules within the system.
• Check all cables and connections.

• Cycle the power.
If the trip is still present and the system contains 3rd Party Modules:
• Disconnect all the non-PGDT modules and cycle the power.

If this has cleared the trip:
• Connect each 3rd Party Module in turn, cycling the power each time.

• If the trip reappears after one of the power cycles then the last module to have been added to the system must be defective.
If the trip is still present after the above checks have been made, then the PM may be defective.

PM Memory Error
This is a specific Power Module based trip.
• Check all cables and connections.

• Using the R-net PC Programmer, re-program the control system

Bad Cable
This occurs when the control system detects a fault in the wiring in the communication cables between any of the modules.
• Check all cables and connections for continuity.

• If there is any visible damage to cables, replace and cycle power.

• Disconnect one cable from the system at a time cycling the power after each disconnection.
If the trip is still present after the above checks have been made, then the PM may be defective.

Bad Settings
This occurs when the control system detects incorrect or invalid program settings.
• Check all parameter settings and re-program the control system using the R-net PC Programmer.

• Make a note of the current parameter settings and then reset the control system to default settings.

• Re-program the required settings in small groups, cycling the power after each group to see if the trip occurs.

If the trip is still present after the above checks have been made, then the PM may be defective.

Module Error
This occurs when the control system detects a trip within a specific module. The module will be identified on the diagnostics screen
• Check all cables and connections.

• Cycle the power.
If the trip is still present after the above checks have been made, then the module identified may be defective.

System Error
This occurs when the system detects a trip that cannot be attributed to a specific module.
• Check all cables and connections.

• Cycle the power.
If the trip is still present and the system contains 3rd Party Modules:
• Disconnect all the none-PGDT modules and cycle the power.
If this has cleared the trip:
• Connect each 3rd Party Module in turn, cycling the power each time.

• If the trip reappears after one of the power cycles then the last module to have been added to the system must be defective.
If the trip is still present after the above checks have been made, then the PGDT control system may be defective.

SID Disconnected
The Omni has detected that the Specialty Input Device (SID) has become disconnected.
• Check all cables and connectors between the Omni and the SID.

If the error persists:
• Check that the setting of the parameter, 9-Way Detect, is appropriate for the SID that is being used. For example, if the SID has no detect-link, then this parameter should be set to Off.

If the trip is still present after the above checks have been made, then the Input Device may be defective. Contact TA Service or your service agent.

Switch Detached
The Omni has detected that the User Switch has become disconnected.
• Check all cables and connectors between the Omni and the User Switch.

If the trip is still present after the above checks have been made, then the User Switch may be defective. Contact TA Service or your service agent. If it is required to use the Omni without a User Switch being connected, then the parameter, Switch Detect, should be set to Off. If a User Switch is not used the responsibility for that decision lies with the healthcare professional.

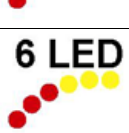
Gone to Sleep
This occurs when the control system has been left inactive for a time greater than the parameter Sleep Timer.
An entry is made in the system log each time this occurs.

Charging
This occurs when the control system detects that a charger is connected to either Inhibit 1 or Inhibit 3.
The Battery charging screen will be displayed during charger connection.
An entry is made in the system log each time this occurs.
If an Off-Board Charger is used:
• Disconnect the charger from the Wheelchair.
If the trip is still present after the charger has been disconnected then the Joystick Module may be defective.

Encoder Error
This occurs when the control system detects an error with the Encoder Module or the Encoder Module has become disconnected
2001 - M1 Sensor Error – The power module cannot detect an Encoder module connection to MI
3C00 - M2 Sensor Error - The power module cannot detect an Encoder module connection to M2
7B01 - EM disconnected- The power module cannot detect an encoder module fitted when the parameter Encoder Module Fitted set to Yes
• Check the motors, cables and connections to the control system.
If the trip is still present after the above checks have been made, then the Encoder Module may be defective.

Joystick Stationary Time Exceeded
This occurs when the joystick is deemed to have been held stationary for an excessive period of time. The controller will stop drive to prevent possible damage the wheelchair's motors.
Turning the control system Off and On again will clear this error message.
If the trip is still present after the power has been cycled, then the PGDT control system may be defective

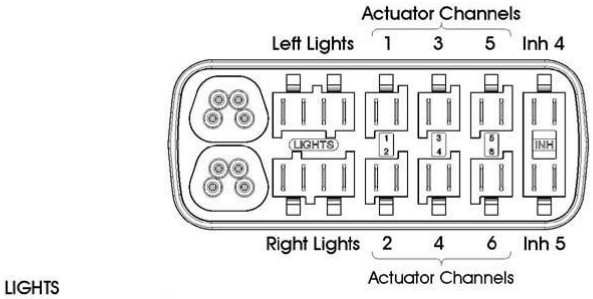
JSM-LED WITHOUT DISPLAY - DIAGNOSTIC DEFINITIONS

Number of light diodes flashing:	**Cause:**	**Solution:**
1 LED 	1. Batteries need charging.	Charge the power chair.
	2. Bad connection to the batteries.	Check the connection to the batteries.
2 LED 	Bad connection to the left* motor.	Check connection to the motor.
3 LED 	The left* motor has a short-circuit to a battery connection.	Contact authorized repairer.
4 LED 	Bad connection to the right* motor.	Check connection to the motor.
5 LED 	The right* motor has a short-circuit to a battery connection.	Contact authorized repairer.
6 LED 	The power chair has been prevented from driving, by an external signal. Fx a special contact solution.	Cause is depending on the special contact solution. Contact TA. Service or your supplier.
7 LED 	1 Joystick is not centered.	Turn OFF the power chair, center the joystick and turn ON again.
	2. Joystick error.	Contact authorized repairer.
8 LED 	1. System error.	Check all connections.
9 LED  **+ control box "bips"**	1. Brake are mechanically disengaged	Connect the brake; see Mechanical disengaging the brakes, page 17.
	2. Bad connection to brake.	Check that the motor/brake cable is properly connected to the power module on the power chair. Contact authorized service center.
10 LED 	Too much voltage has occurred in the control system.	This is normally caused by a bad connection to the batteries. Check the connection to the batteries.
7 LED+ S 	1. Bad connection in the cables.	Check cable connections between the control box, seat module and power module.
	2. Broken cable.	Change the cable.
Actuator Flash 	Power module failure.	Test if one of the electric functions doesn't work. Check if one of the connections from the electonics to the actuators doesn't work.

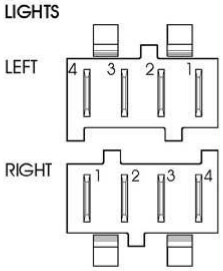
ISM – SEAT MODULE FOR ELECTRIC FUNCTION

ISM CONNECTIONS

The following diagram gives details of the ISM connections.

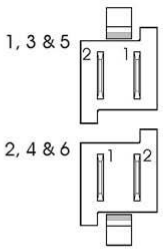


LIGHTS



Lights	Function
1	Gnd
2	Lights
3	Indicator
4	Brake/Horn

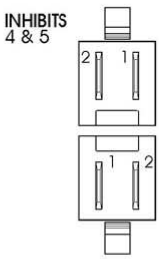
ACTUATORS



Joystick Movement	Pin 1	Pin 2	Actuator Movement	
Forward	-ve	+ve	Channel Up	*
Backward	+ve	-ve	Channel Down	*

* Assumes no Joystick Orientation or Invert Axis Direction programming has been undertaken

INHIBITS 4 & 5



INHIBIT - 4	Function
1	0V
2	Inhibit 4

INHIBIT - 5	Function
1	0V
2	Inhibit 5

The ISM is shipped with rubber bungs inserted into some of the connectors.
Only remove the rubber bung from the required connectors.

Inhibit 4 = PCB – switches from tilt and lift to reduce max speed and tilt/lift
Inbibit 5 = N.C:

Actuator ch.	1	2	3	4	5	6
Function	Backrest	Tilt	Lift	L. Legrest	R. legrest	*Small backrest – 1.3A Max

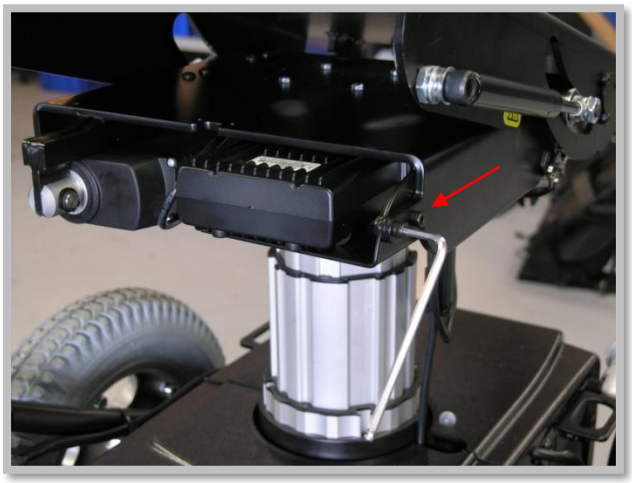
* Small backrest = TA backrest 80 mm – Item number 81003

Light output is only available if wheelchair has been configured with light

CHANGING ISM MODULE

The ISM controls all the electronic functions like lift, tilt, backrest and leg rests. The ISM seating module is located under the tilt at the left side. The mounting and cable has been upgraded see “ISM bracket 1.6”

- Start by unscrew the two screws at the side of the tilt with a 4 mm Allen key



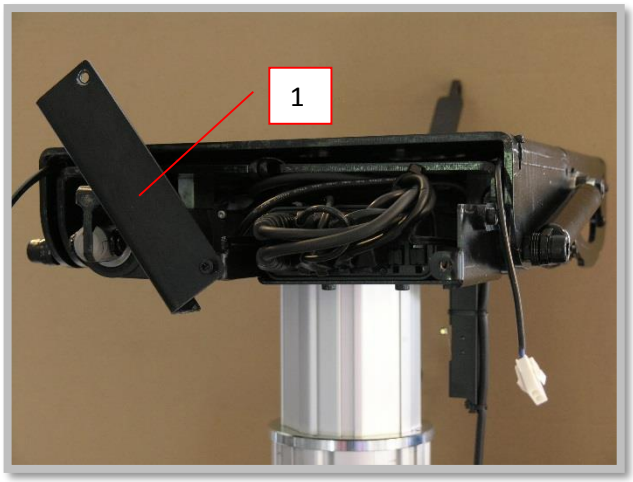
- Screw the bracket off the ISM with a 3 mm Allen key

- The box is now free, and the connectors can be unplugged.
- Push the little tap on the plug and pull the plug out.

ISM BRACKET 1.6

At the front of the tilt, the ISM module is turned around, so you can get to the plugs from the front.

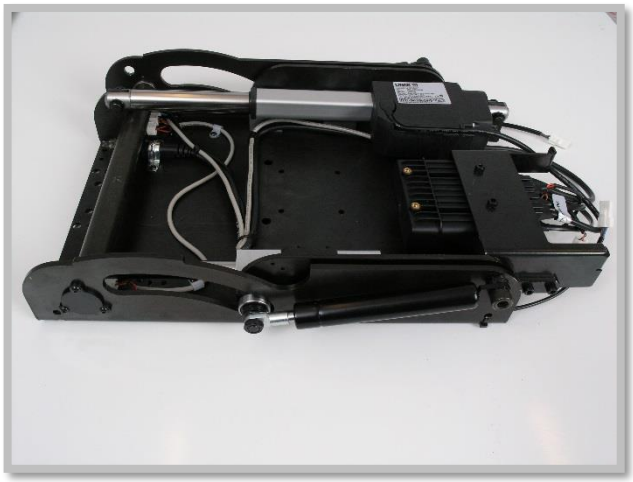
Remove the front plate (1) and you will have access to the plugs.



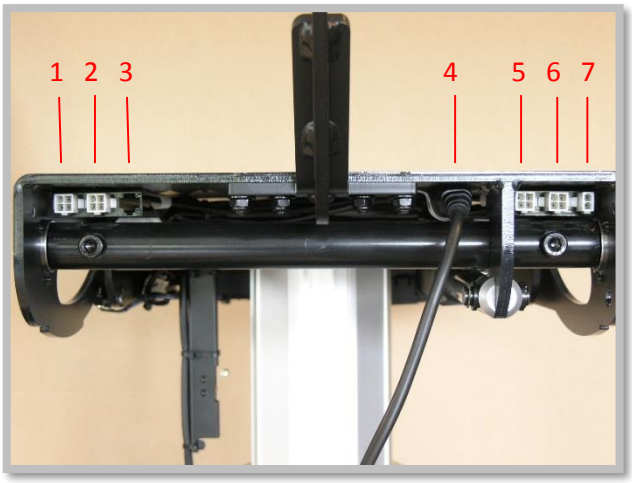
The new tilt has all the cables wired up from the factory, then you are sure that the cabling is tied up right and don't get squeezed, even if you have to change light, backrest actuator or cable to the controller.

The following cables has been extended to the end of the tilt. Adding and changing part will be at the plugs at the tilt and not at the ISM module

- Cable for light
- Cable for backrest actuator
- Controller cable



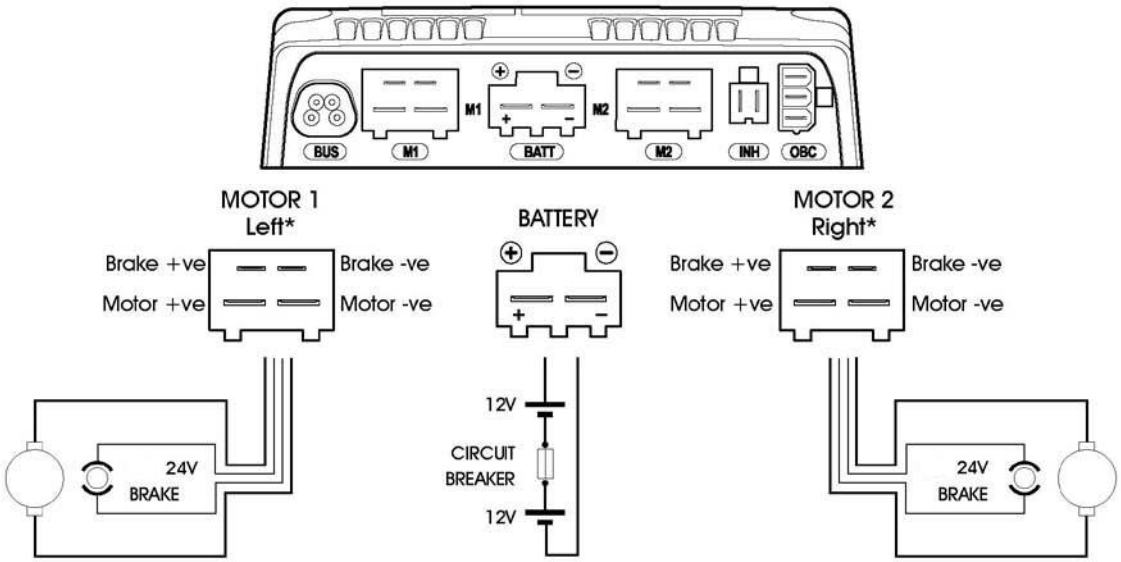
1. Light – left
2. Light – left
3. NC.
4. Cable to controller
5. Light – right
6. Light – light
7. Backrest actuator



PM – POWER MODULE

PM120 CONNECTIONS

The following diagram gives details of the Power Module connections.



* Assumes no Motor Swap programming has been undertaken

Joystick Movement	M1		M 2		Actual Movement	
	Motor +ve	Motor -ve	Motor +ve	Motor -ve		
Forward	+ve	-ve	+ve	-ve	Forward	**
Backward	-ve	+ve	-ve	+ve	Backward	**

** Assumes no Joystick Orientation, Invert M1 Direction or Invert M2 Direction programming has been undertaken

INHIBIT 2

INH-2	Function
1	0V
2	Inhibit 2

ON-BOARD CHARGER

OBC	Function
1	Battery +ve
2	Inhibit 3
3	0V

The Power Module is shipped with rubber bungs inserted into some of the connectors. Only remove the rubber bung from the required connectors.

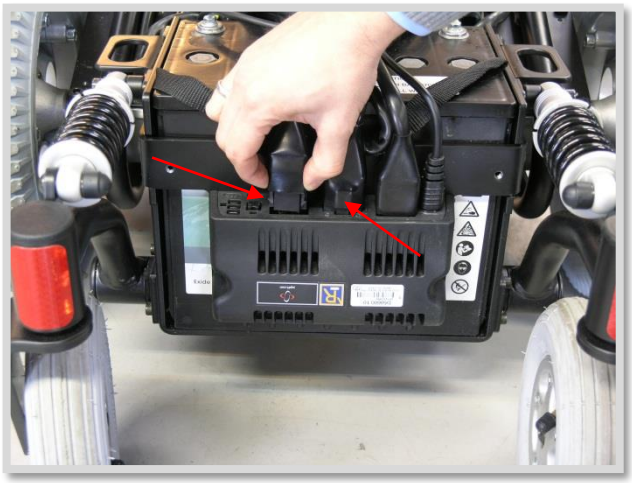
CHANGING PM 120 MODULE

The power module is located under the shield with the TA logo

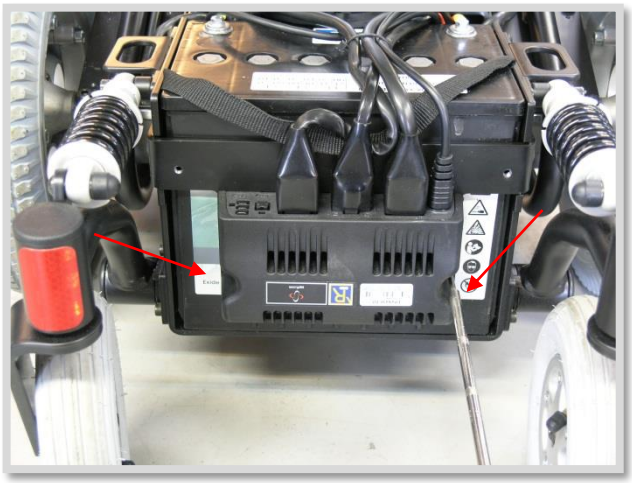
- Start by taking off the shield with the TA logo

  See CHANGING BATTERIES

- Push on each side of the plug (motor plug) and at the front of the power plug
  to release the barb and pull the plug up.



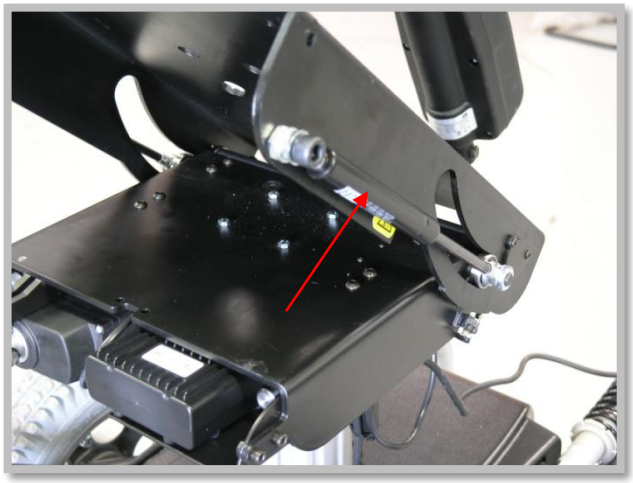
- Screw the two bolt out that holds the Power module to the bracket



ACTUATORS

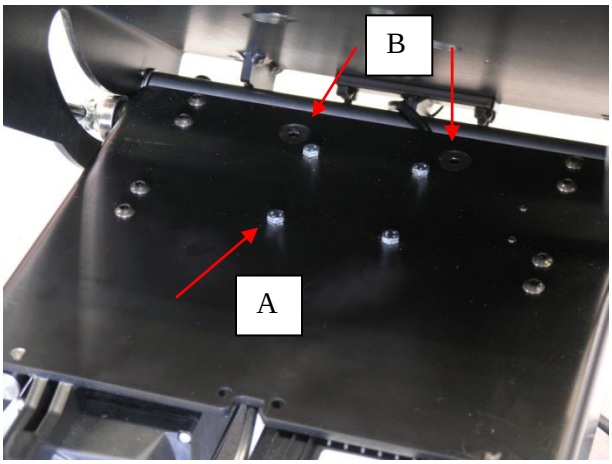
CHANGING TILT ACTUATOR

- The tilt actuator is located in the right side of the tilt.
- Start by tilt the seat so the gas spring is out in the end position, and don't press on the tilt
- Take the plug out off the ISM module (see ISM connection for details)
- For easier access to the plugs take off the ISM (see CHANGING ISM)
- Take off the Seeger ring in the front to get the actuator off
- Take off the Seeger ring at the end of the actuator. The actuator is now free from the tilt.

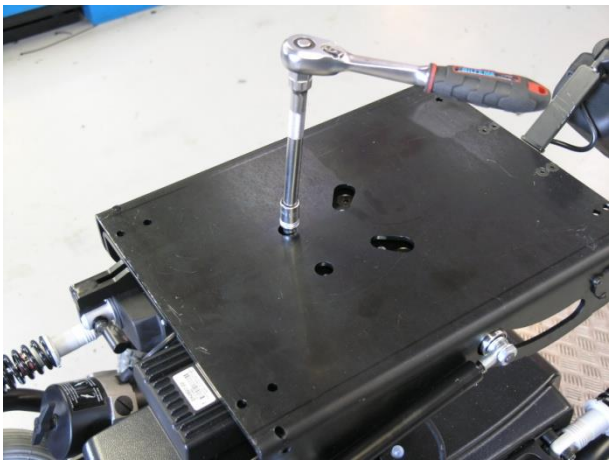


CHANGING LIFT ACTUATOR

- Start by taking off the seat of the wheelchair
- Take the plug out off the ISM module
  (See ISM CONNECTION and CHANGING ISM)
- The four hex bolts (A) that fasten the lift column and the two socket screws (B) to the support ring must be unscrewed.



- If the topplate is tilted down, there is access to the bolts from the top with a Hex and Allen key

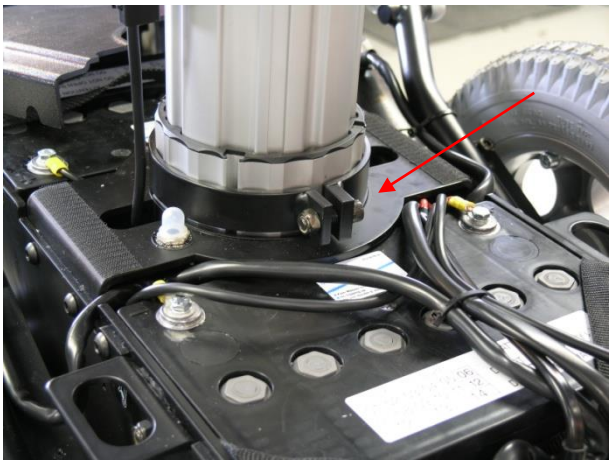


- When the tilt is off. Take off the support ring

! When putting on the ring on a new lifting column be aware not to tighten the ring, it shall only support the ring.
The column will be damaged if the ring gets too tight

- Take off the shield
  (see CHANGING BATTERIES)

- Unfasten the bolt

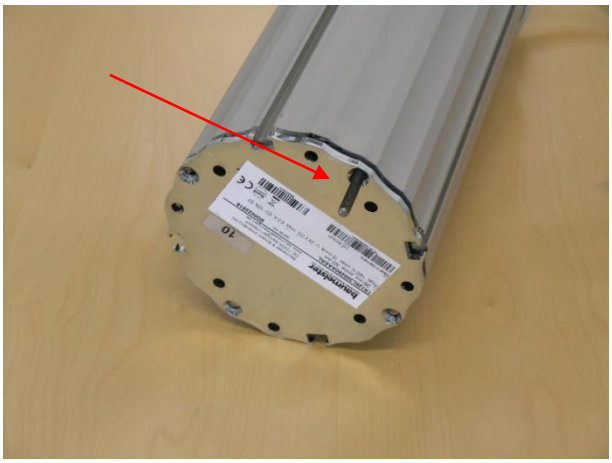


! When putting on the ring on a new lifting column be aware not to tighten the ring, it shall only support the ring.
The column will be damaged if the ring gets too tight

- Unscrew the four Torx screw at the bottom of the wheelchair

- Take a long Set screw or screw without head and screw in one of the holes **before** taking the lifting column out

  This is for preventing the bottom plate to turn. If the bottom plate turns the lifter will go out of adjustment and be damaged.

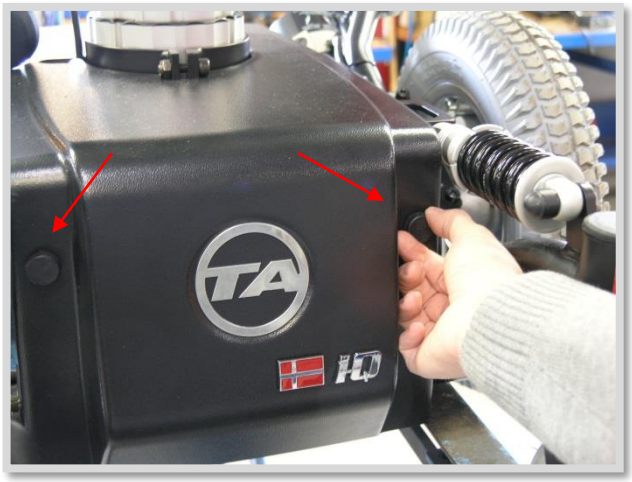


BATTERIES

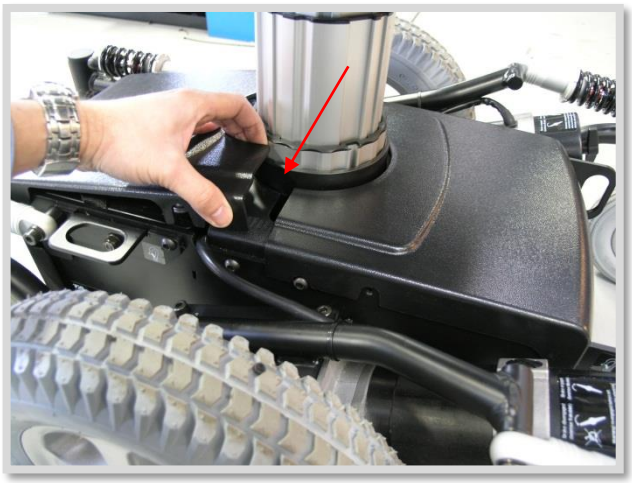
CHANGING BATTERIES

* For specification of the batteries see the user manual.

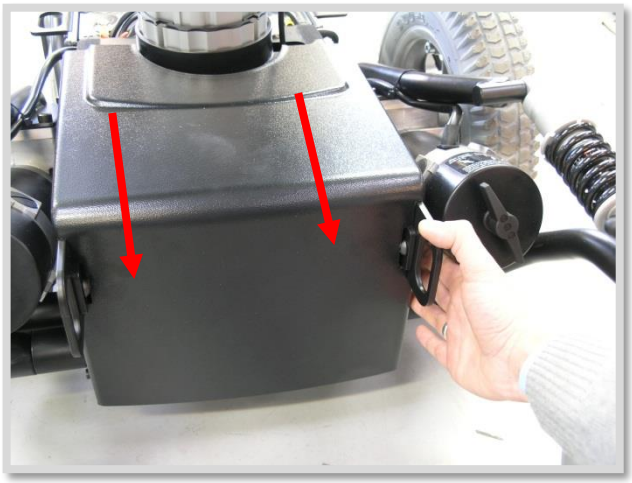
- Start by taking off the two finger screws on the shield with the TA logo



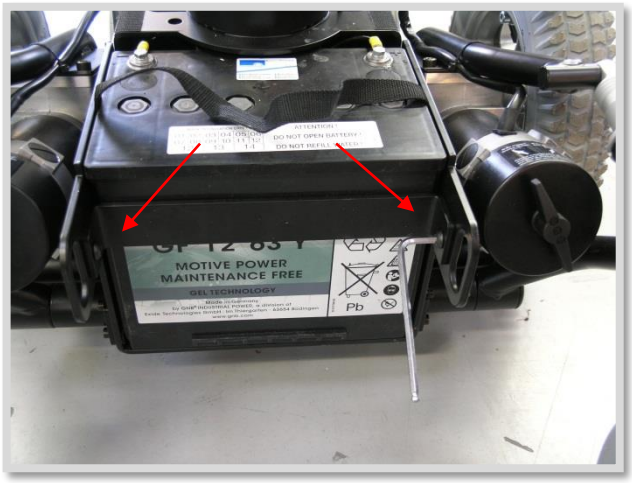
- The shield is mounted with Velcro at the center of the wheelchair (beside the lifting column) lift the shield up in both sides and pull the backwards.
- Lift the other shield up the same way



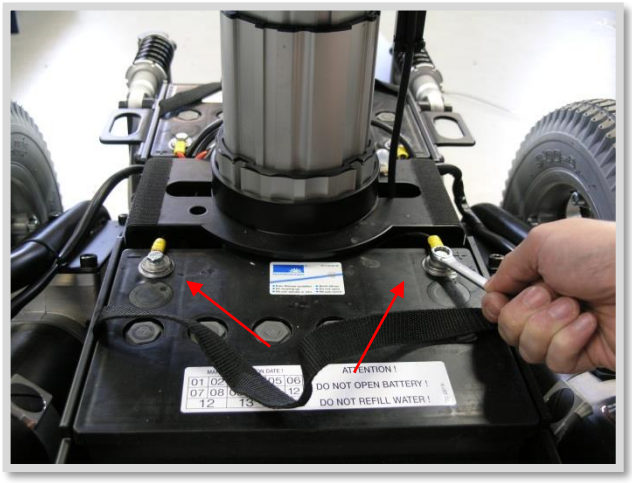
- Pull the shield backwards



- Screw the battery bracket off with an Allen key

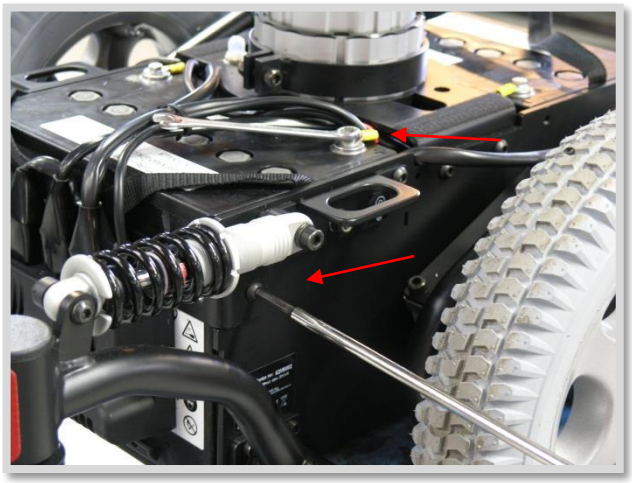


- Take off the cable connections with a 10 mm spanner
- The battery can now be pulled backward out

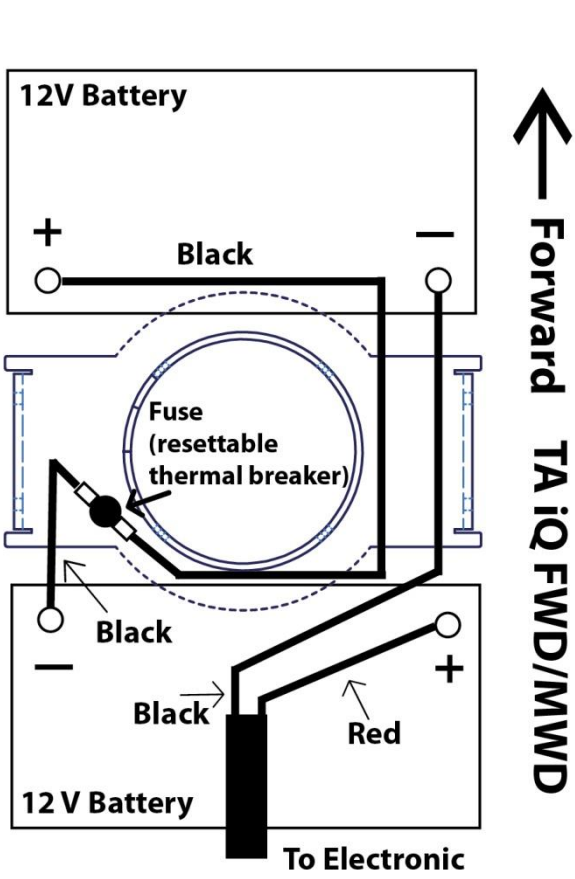


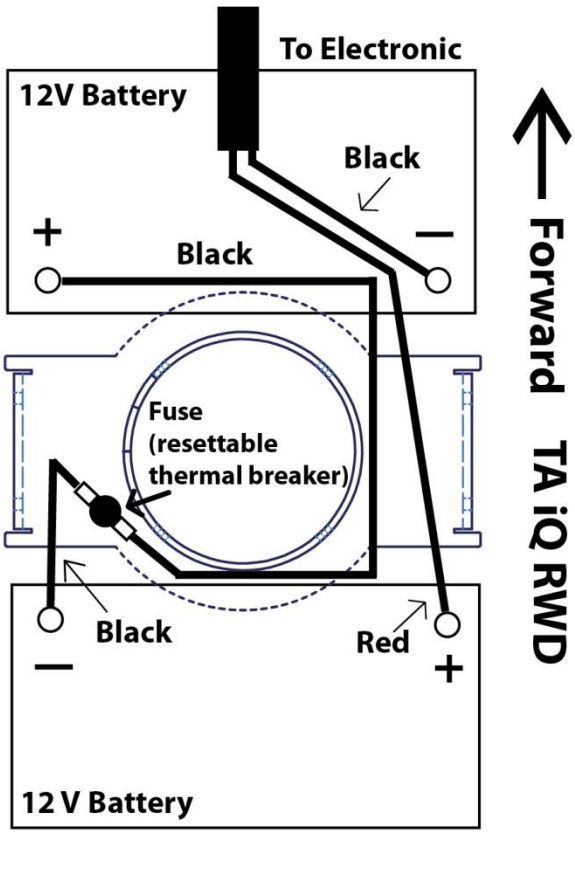
- Do the same at the other end
- The battery bracket is fasten on the outside of the wheelchair
- Take off the cable connections with a 10 mm spanner
- The battery bracket with the power module can be lifted up and the battery pulled out

! For right wiring connections of the batteries
see BATTERY CONNECTION

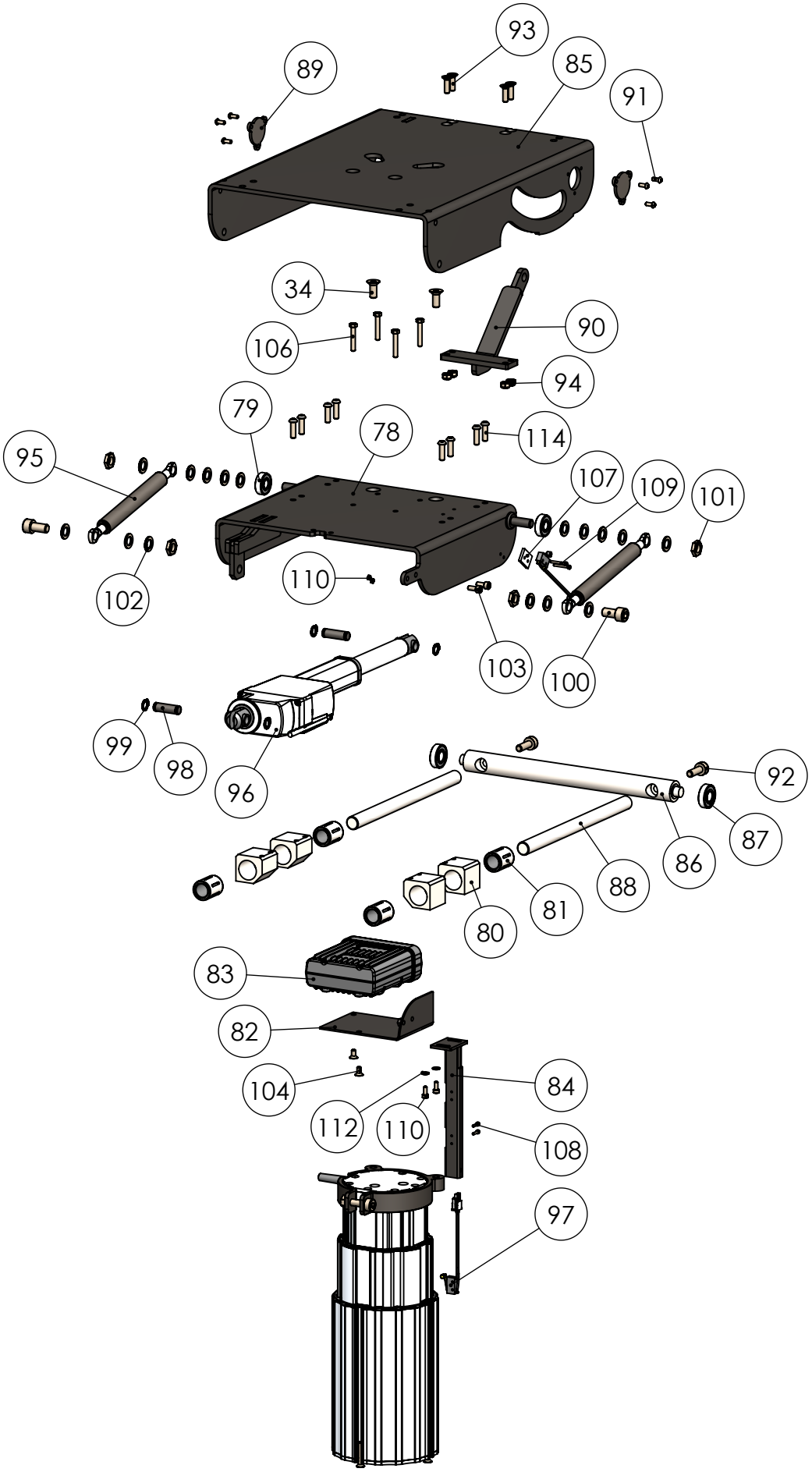


BATTERY CONNECTION





Tilt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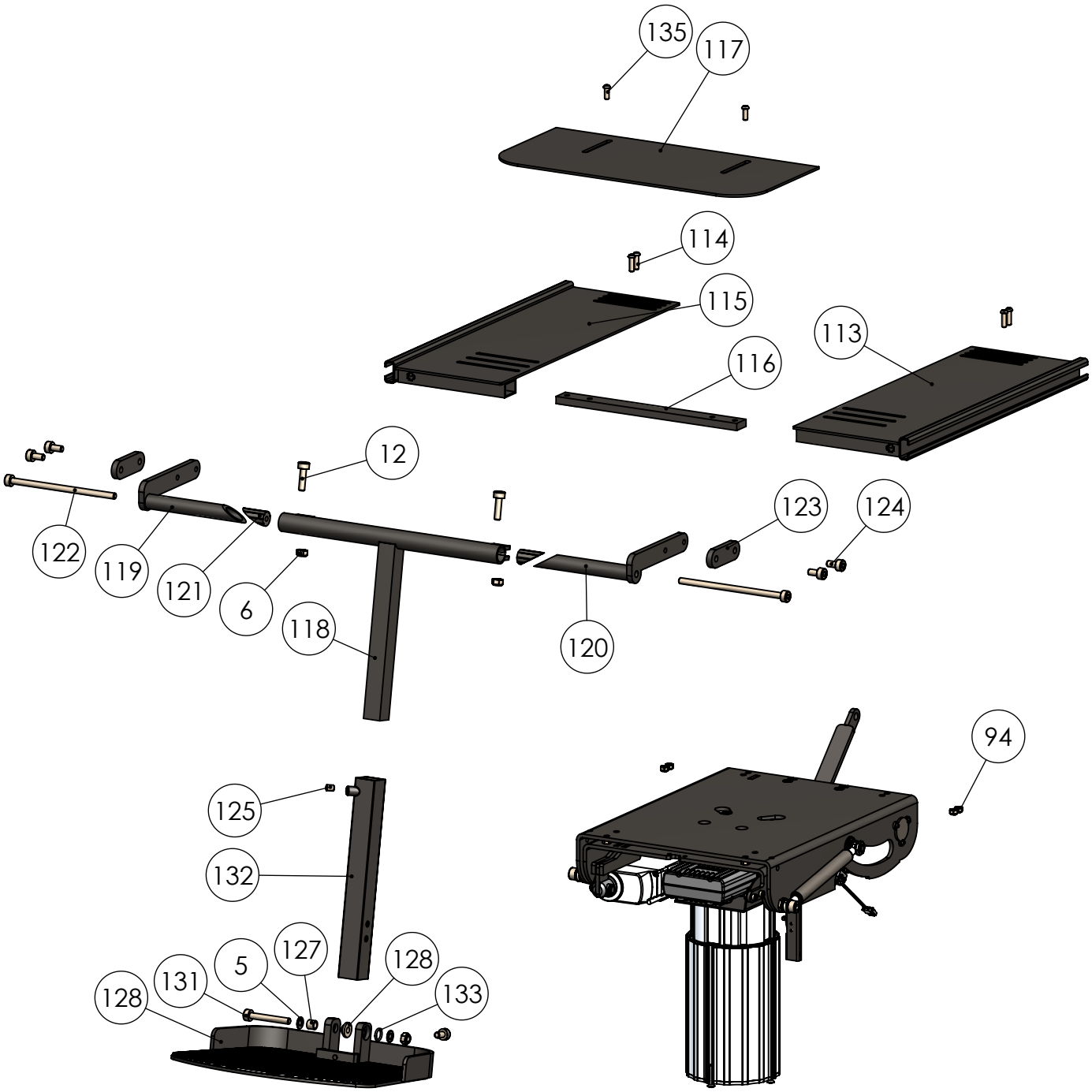
Seatplate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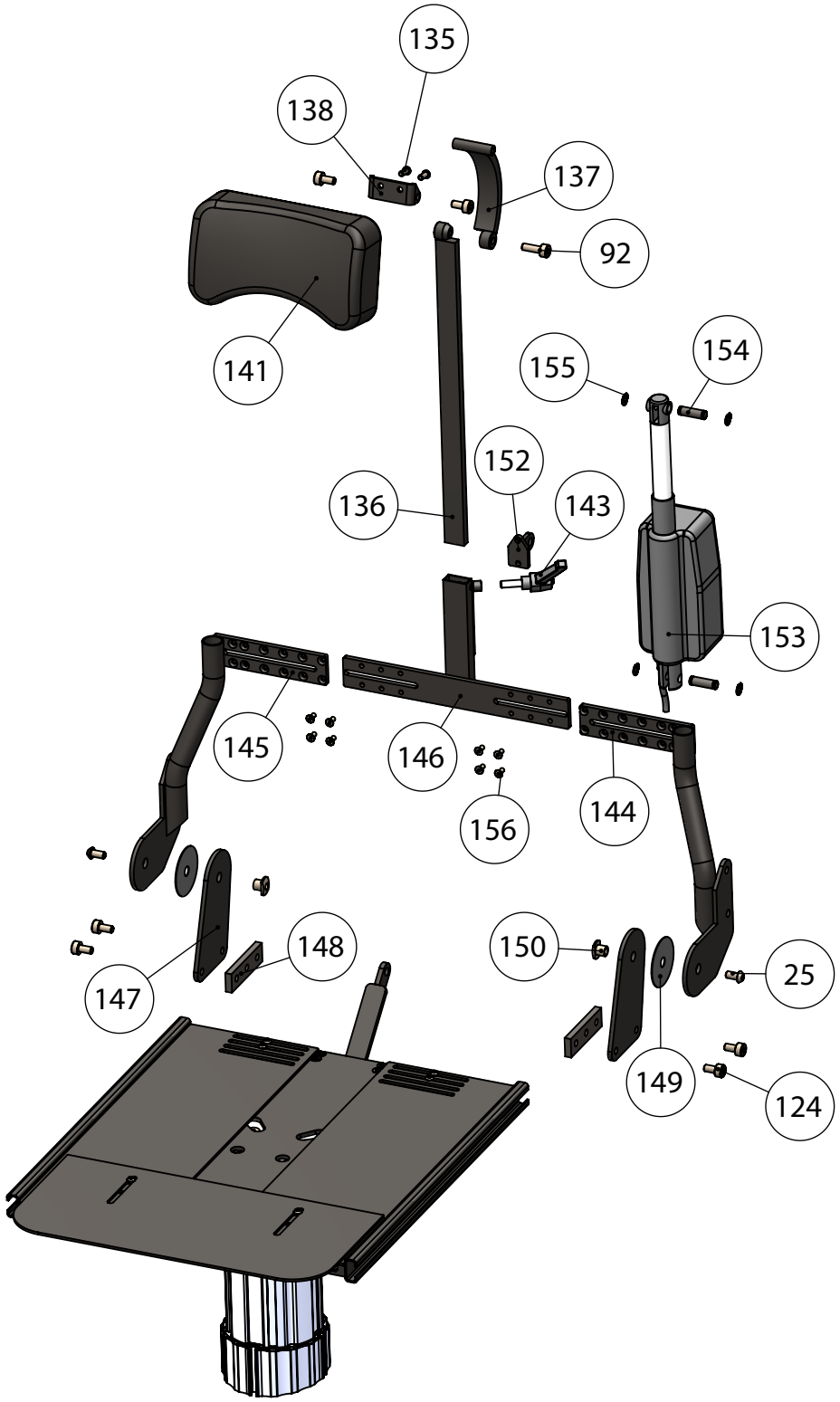
Backrest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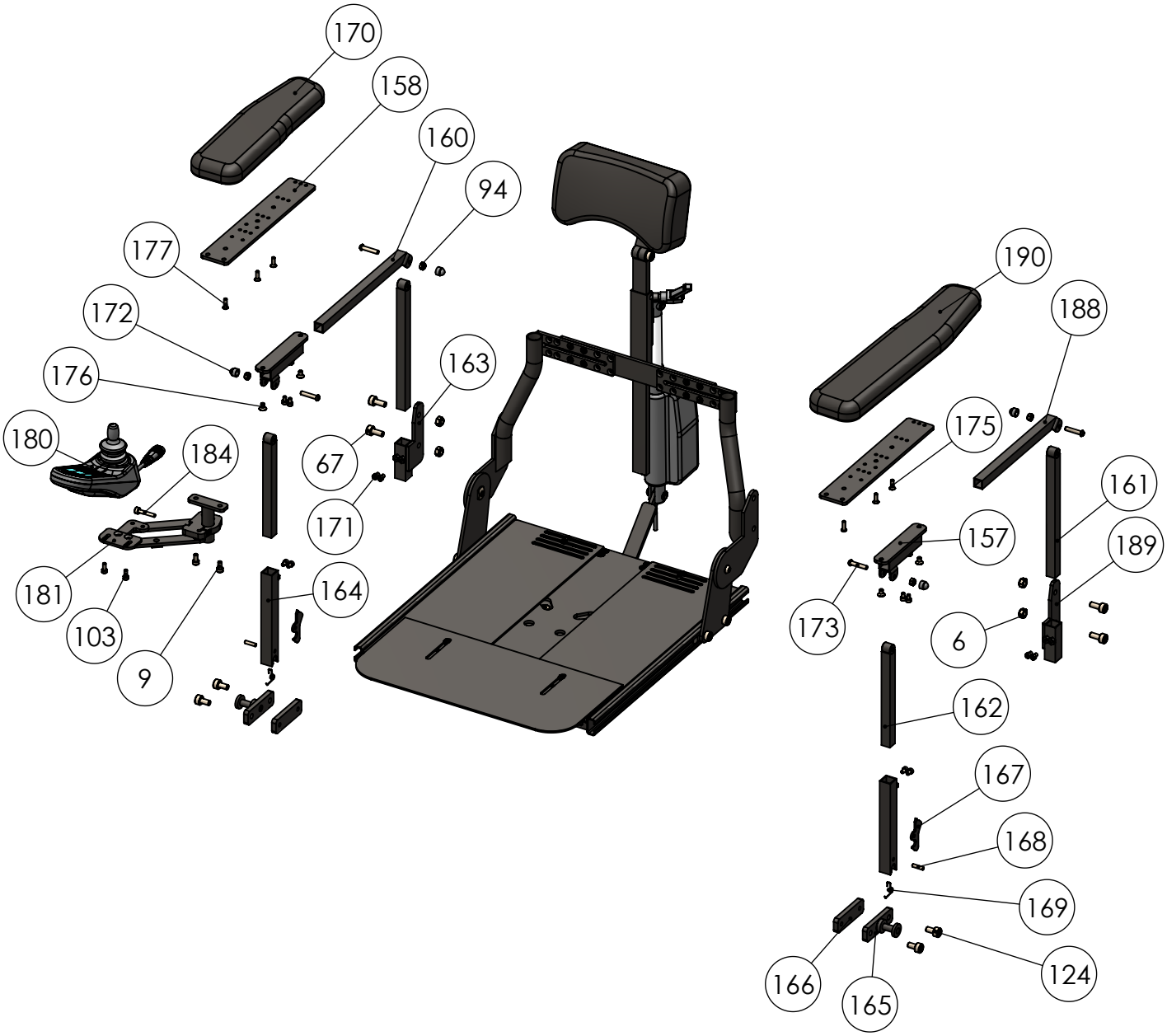
Armrest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TA iQ Part List - Top

Tilt

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
34	US-M8x20	Iron		2
78	Tilt base	Iron		1
79	Bearing 6000RS	Metal, rubber		2
80	T-Part-3	Aluminium		4
81	F-12	Metal		4
82	T-Part-7	Iron		1
83	ISM electronic for light	Metal, plastic	95254	1
84	T-Part-5	Iron	97139	1
85	Topplate	Iron		1
86	T-Part-8	Metal		1
87	Bearing 6001RS	Metal, rubber		2
88	T-Part-9	Stainless steel		2
89	T-Part-6	Iron		2
90	Bracket for back actuator	Iron	97136	1
91	BH-M4x10	Iron		6
92	CH-M8x25	Iron		2
93	US-M6x20	Iron		4
94	LM-M6	Iron		4
95	Gas spring	Metal	97103	2
96	Tilt actuator	Metal, plastic	97102	1
97	Switch for lift	Metal, plastic	97255	2
98	T-Part-34	Iron		2
99	Seeger ring 10 mm	Iron		4
100	CH-M10x20	Iron		2
101	M-M10	Iron		4
102	SK-M10x1,5	Iron		16
103	CH-M5x12	Iron		2
104	US-M5x10	Iron		2
106	Hex-M5x30	Iron		4
107	Part-25	Plastic		1
108	CH-M2,5x10	Iron	80427	2
109	CH-M2,5x20	Iron		2
110	M-M2,5	Iron		2
110-A	CH 4X10	Iron	80432	2
111	CH-M4x10	Iron		2
112	SK-M4x1	Iron	80476	2

Seatplate

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
5	SK-M8x1,5	Iron		2
6	LM-M8	Iron		3
12	CH-M8x30	Iron		3
94	LM-M6	Iron		4
113	Seat plate L	Iron		1
114	BH-M6x20	Iron		4
115	Seat plate R	Iron		1
116	Seat pin front	Iron		1
117	Extender plate	Iron		1
118	Upper T-part legrest	Iron		1
119	C-profile part legrest R	Iron		1
120	C-profile part legrest L	Iron		1
121	Cone for legrest	Iron		2
122	CH-M8x160	Iron		2
123	Fasten bracket legrest	Iron		2
124	CH-M8x16	Iron		5
125	P-M8x10	Iron		1
126	Footplate	Aluminium		1
127	AB-M8x10	Iron		1
128	Rubber for footplate	Rubber		1
131	CH-M8x60	Iron		1
132	Lower part legrest	Iron		1
133	o-ring Ø15,3 X 2,4 inside	Rubber		1
135	BH-M6x16	Iron		2

114	BH-M6x20	Iron		8

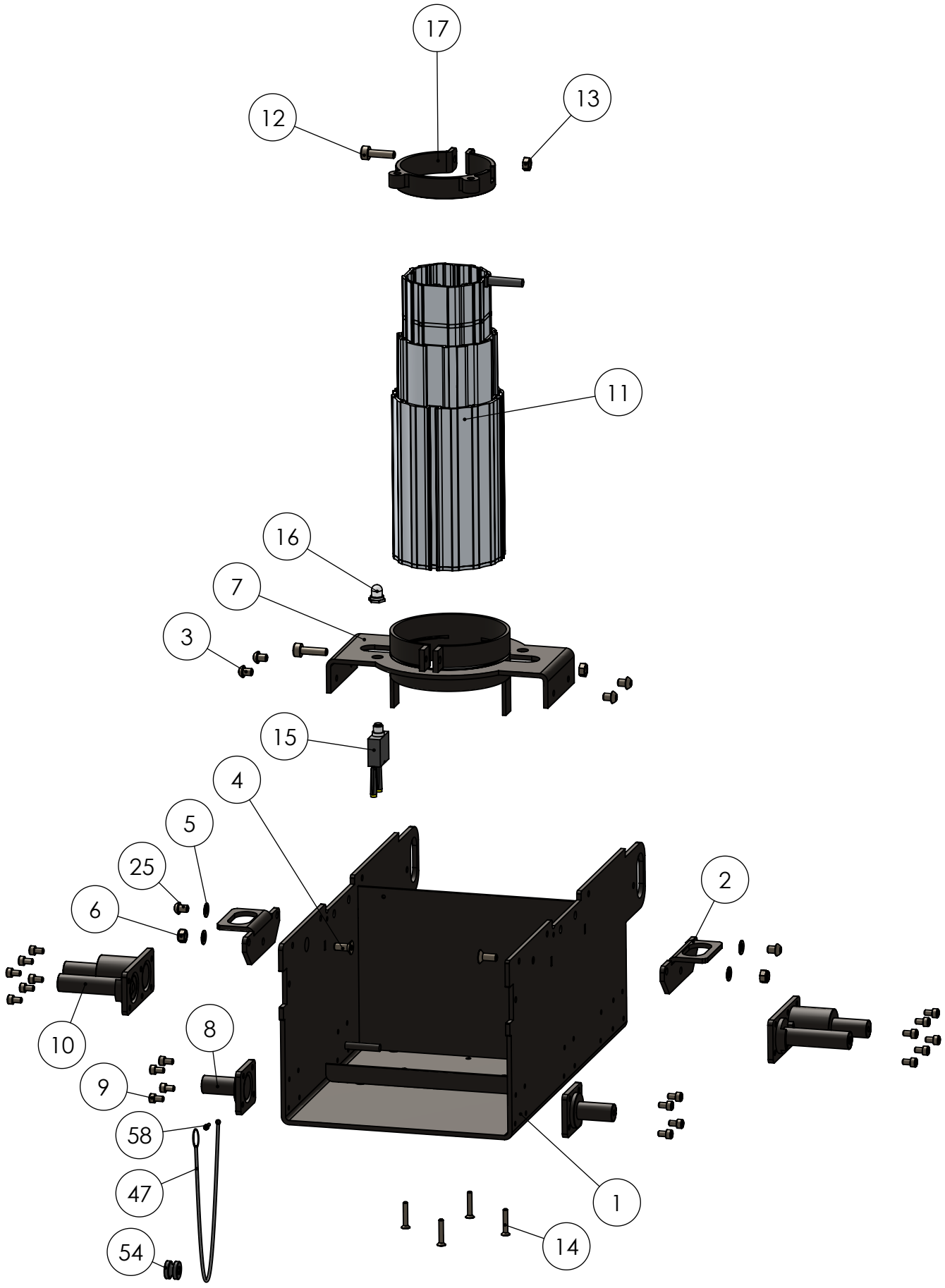
Backrest

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
25	BH-M8x16	Iron		2
92	CH-M8x25	Iron		1
124	CH-M8x16	Iron		6
135	BH-M6x16	Iron		2
136	Headrest bracket, straight	Iron		1
137	Headrest bracket, bended	Iron		1
138	Headrest fixation bracket	Iron		1
141	Headrest	Leather, foam, wood		1
143	F-16	Metal, plastic		1
144	Back racket, left	Iron		1
145	Back racket, right	Iron		1
146	Back racket, center	Iron		1
147	T-Part-32	Iron		2
148	T-Part-20	Iron		2
149	F-18	Plastic		2
150	GB-M8	Iron		2
152	T-Part-33	Iron		1
153	Back actuator	Metal, plastic	97233	1
154	T-Part-34	Iron		2
155	Låseskive-10	Iron		4
156	US-M5x12	Iron		8

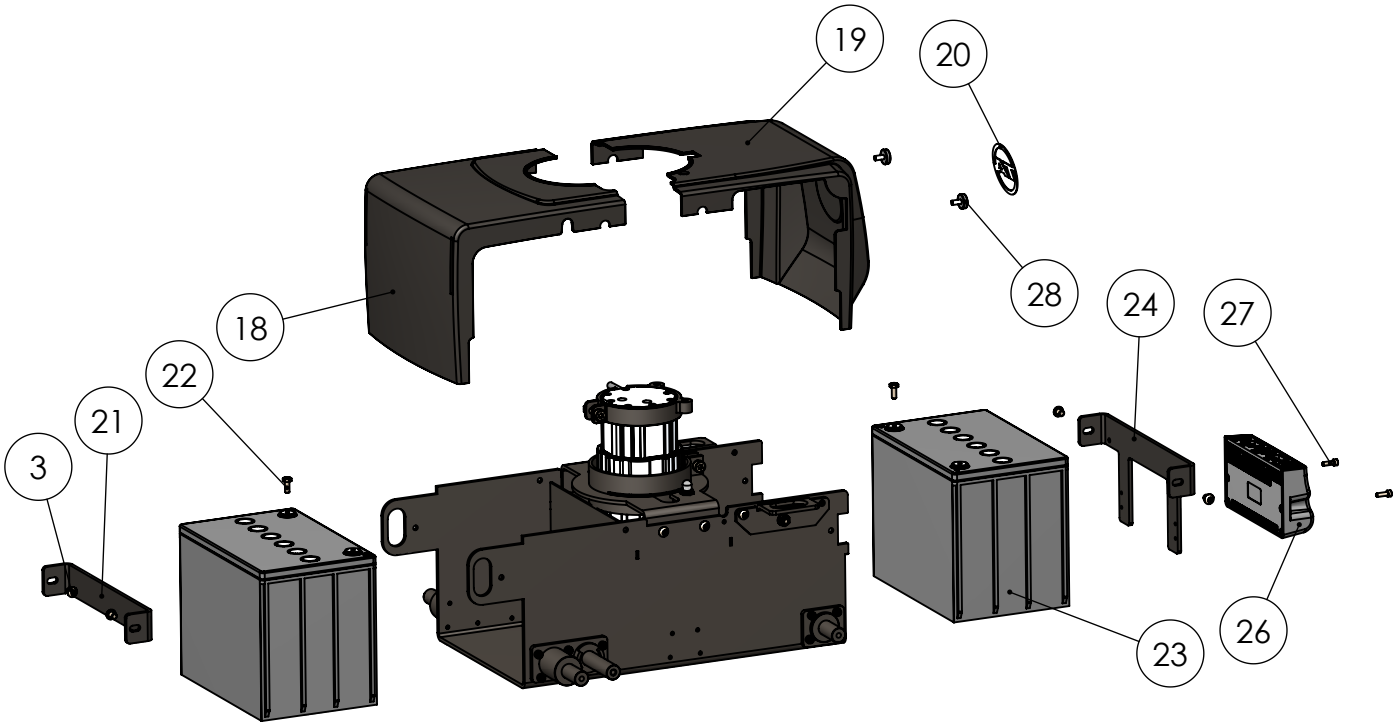
Armrest

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
6	LM-M8	Iron	80493	4
9	CH-M6x12	Iron	80441	2
67	CH-M8x20	Iron	80449	4
94	LM-M6	Iron	80492	4
103	CH-M5x12	Iron	80436	2
124	CH-M8x16	Iron	80448	4
157	A-Part-7	Iron	80271	2
158	A-Part-6	Iron	80270	2
160	A-Part-3	Iron	80279	1
161	A-Part-5	Iron	80280	2
162	A-Part-8	Iron	80272	2
163	A-Part-11	Iron	80282	1
164	A-Part-9	Iron	80273	2
165	A-Part-1	Iron	80276	2
166	A-Part-2	Iron	80277	2
167	A-Part-10	Iron	80274	2
168	P-M5x20	Iron	80275	2
169	Spring	Metal	80283	2
170a	Armrest cushion right short	Leather, foam, wood	80320	1
170b	Armrest cushion left short	Leather, foam, wood	80336	1
171	CH-M5x8	Iron	80434	12
172	F-20	Plastic	80313	4
173	BH-M6x30	Iron	80418	4
175	US-M5x16	Iron	80463	4
176	US-M6x10	Iron	80465	4
177	BH-M5x16	Iron	80413	2
180	CJSM Color Controller	Metal, plastic	95172	1
181a	Swingaway bracket right	Iron	80407	1
181b	Swingaway bracket left	Iron	80408	1
184	CH-M5x30	Iron	80530	1
188	A-Part-4	Iron	80278	1
189	A-Part-12	Iron	80281	1
190a	Armrest cushion right long	Leather, foam, wood	80335	1
190b	Armrest cushion left long	Leather, foam, wood	80321	1

MWD-A

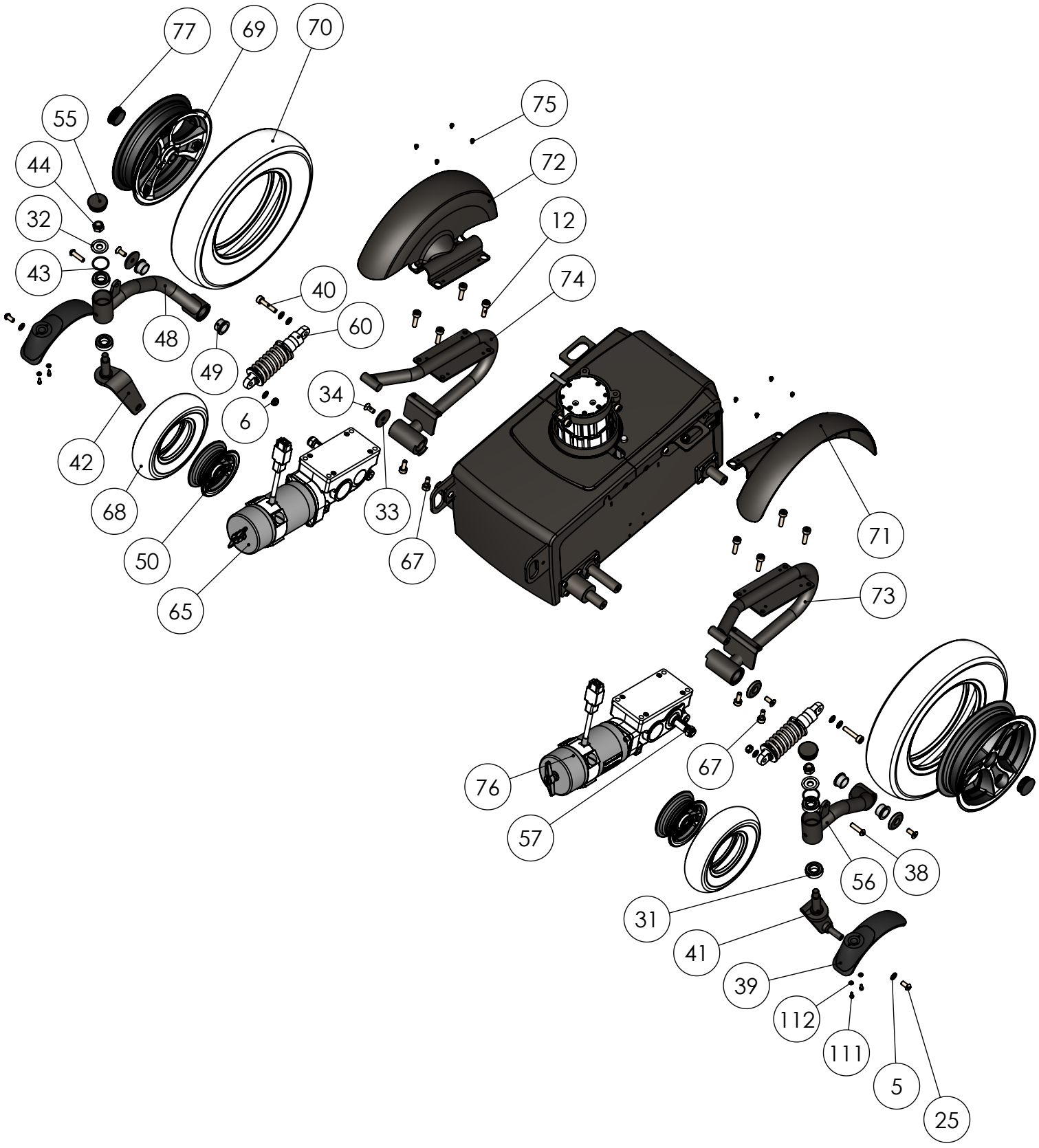


MWD-B



MWD-C

MWD-D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TA iQ Part List - MWD

MWD-A

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
1	Frame P-7	Iron		1
2	Tie down P-10	Iron		2
3	BH-M8x10	Iron		4
4	US-M8x25	Iron		2
5	SK-M8x1,5	Iron		4
6	LM-M8	Iron		2
7	Support ring P-11	Iron		1
8	Swing wheel shaft P-12	Iron		2
9	CH-M6x12	Iron		20
10	Drive wheel shaft P-13	Iron		2
11	Lifting column	Alu, iron, plastic	97104	1
12	CH-M8x30	Iron		2
13	M-M8	Iron		2
14	US-M5x30	Iron		4
15	Thermal fuse EL-2	Iron, platic		1
16	Fuse cover EL-3	Plastic, metal		1
17	Upper support ring	Iron		1
25	BH-M8X16	Iron		2
47	Spring for tighning wires	Metal	97278	1
54	Wheel for spring	Plastic	97125	1
58	CH-M3x10	Iron	80543	1

MWD-B

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
3	BH-M8x10	Iron		4
18	Front shield FWD/MWD	ABS plastic	97146	1
19	Rear shield FWD/MWD	ABS plastic	97147	1
20	TA Logo	Stainless steel	97150	1
21	Rear battery bracket	Iron		1
22	Hex-M6x16	Iron		2
23	12V 63Ah battery	Gel battery	97101	2
24	Front battery bracket	Iron		1
26	Power module	Metal, plastic	95164	1
27	CH-M5x16	Iron		2
27A	BH 5X8 for cable-plug	Iron		1
28	Shield finger screw M6	Iron, plastic		2

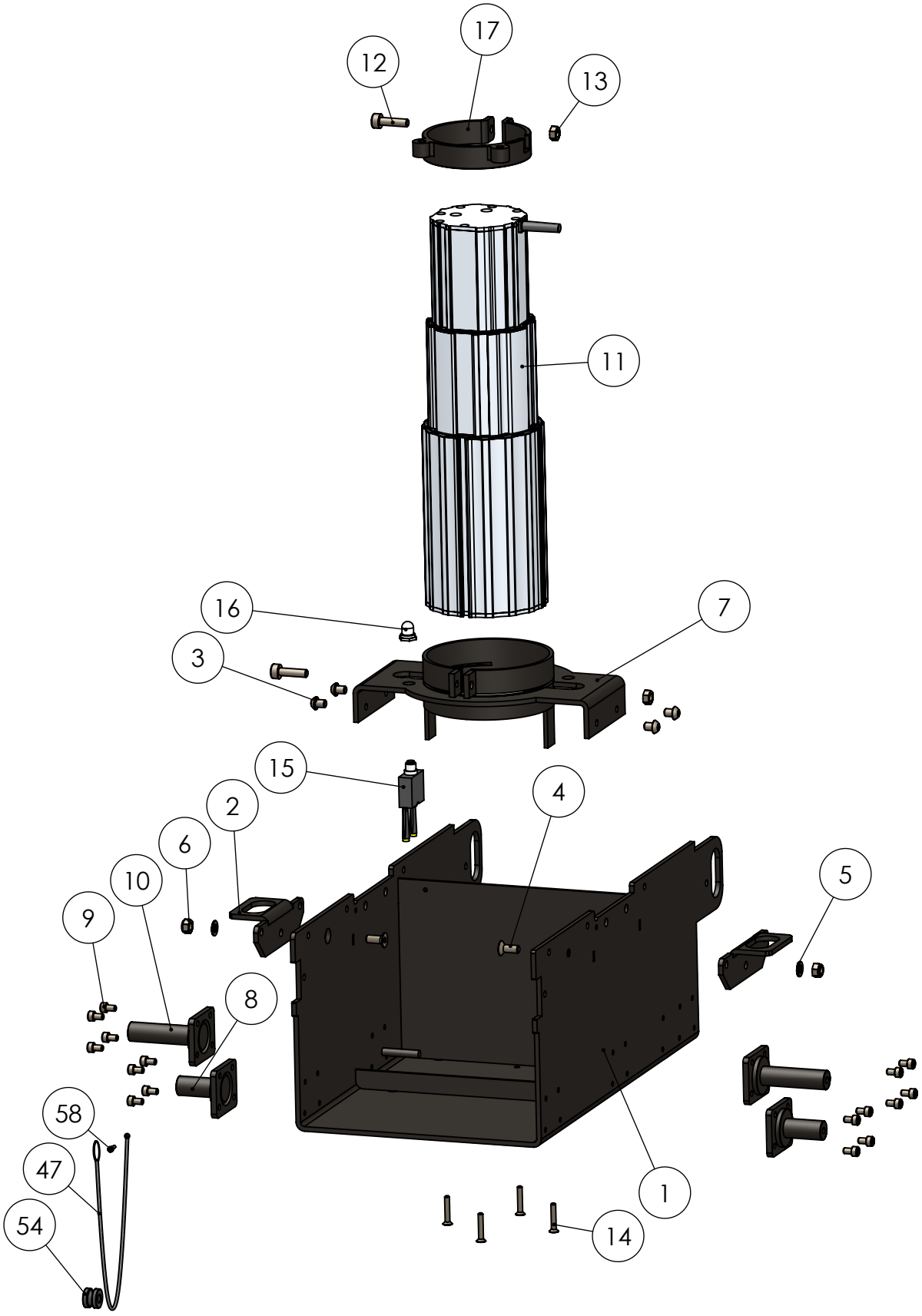
MWD-C

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
5	SK-M8x1,5	Iron		8
6	LM-M8	Iron		2
25	BH-M8x16	Iron		2
29	Swing arm P-4	Iron		2
30	Swingarm bush P-3	Plastic		4
31	Bearing 6003	Metal, rubber		4
32	Ring for swingwheel	Metal		2
33	End cap	Iron		2
34	US-M8x20	Iron		2
35	Spacer P-15 9mm	Iron		2
36	Suspension 250 lbs MWD	Metal	97153	2
38	BH-M8x30	Iron		2
39	Mudguard for swingwheel	Plastic		2
40	CH-M8x40	Iron		2
41	Fork Left MWD	Iron	97279	1
42	Fork Right MWD	Iron	97114	1
43	O-ring for swingwheel	Iron		2
44	LM-M12	Iron		2
45	Plastic cap	Plastic		2
50a	Swing wheel rim silver	Metal	97205	2
50b	Swing wheel rim black	Metal	97208	2
68a	Swing wheel 200x50 flexel gray	Rubber	97180	2
68b	Swing wheel 200x50 air tire gray	Rubber	97182	2
68c	Swing wheel 200x50 rubber tube	Rubber	97184	2
111	CH-M4x10	Iron		4
112	SK-M4x1	Iron		4

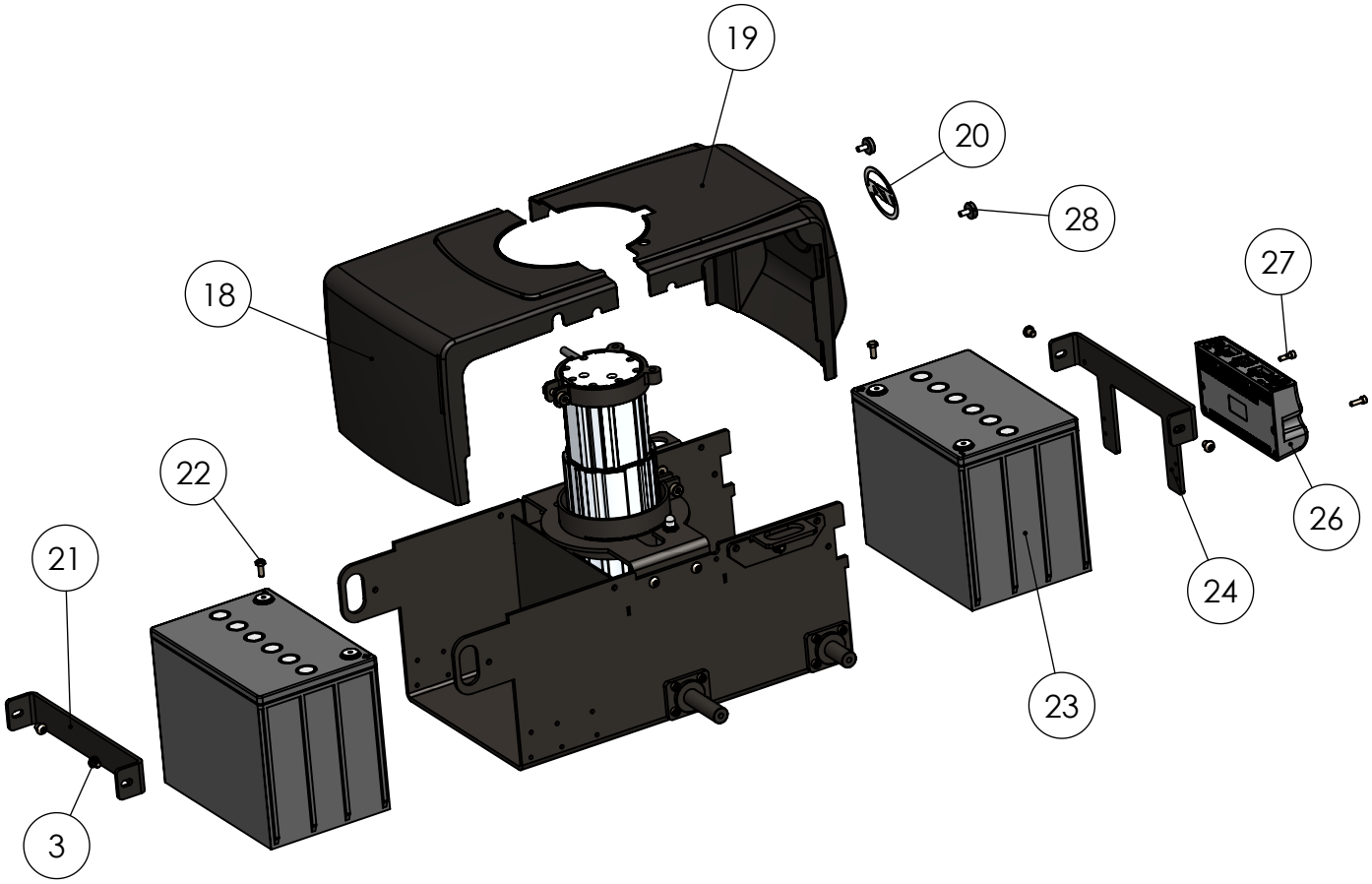
MWD-D

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
5	SK-M8x1,5	Iron		8
6	LM-M8	Iron		2
12	CH-M8x30	Iron		8
25	BH-M8x16	Iron		2
31	Bearing 6003	Metal, rubber		4
32	Ring for swingwheel	Metal		2
33	End cap	Iron		4
34	US-M8x20	Iron		4
38	BH-M8x30	Iron		2
39	Mudgurard for swingwheel	Plastic		2
40	CH-M8x40	Iron		2
41	Fork Left MWD	Iron	97279	1
42	Fork Right MWD	Iron	97114	1
43	O-ring for swingwheel	Iron		2
44	LM-M12	Iron		2
48	Swingarm FR	Iron		1
49	Pom bush	Plastic		4
50a	Swing wheel rim silver	Metal	97205	2
50b	Swing wheel rim black	Metal	97208	2
55	Plastic cap F-7	Plastic		2
56	Swingarm FL	Iron		1
57	Nut M12x1,5	Iron		2
60	Suspension 250 lbs	Metal	97153	2
65	Motor right	Metal, plastic	97140	1
67	CH-M8x20	Iron		4
68a	Swing wheel 200x50 flexel	Rubber	97180	2
68b	Swing wheel 200x50 air tire	Rubber	97182	2
68c	Swing wheel 200x50 rubber tube	Rubber	97184	2
69a	Drive wheel 3.00-8 rim silver	Metal, plastic	97206	2
69b	Drive wheel 3.00-8 rim black	Metal, plastic	97207	2
70a	Drive wheel 300-8 air tire	Rubber	97181	2
70b	Drive wheel 300-8 flexel	Rubber	97179	2
70c	Drive wheel 300-8 rubber tube	Rubber	97183	2
71	Mudguard Right MWD	ABS Plastic	97203	1
72	Mudguard Left MWD	ABS Plastic	97204	1
73	Motor bracket Left	Iron		1
74	Motor bracket Right	Iron		1
75	CH-M4x5	Iron		8
76	Motor Left	Metal, plastic	97141	1
77	Wheel cap	Plastic		2
111	CH-M4x10	Iron		4
112	SK-M4x1	Iron		8

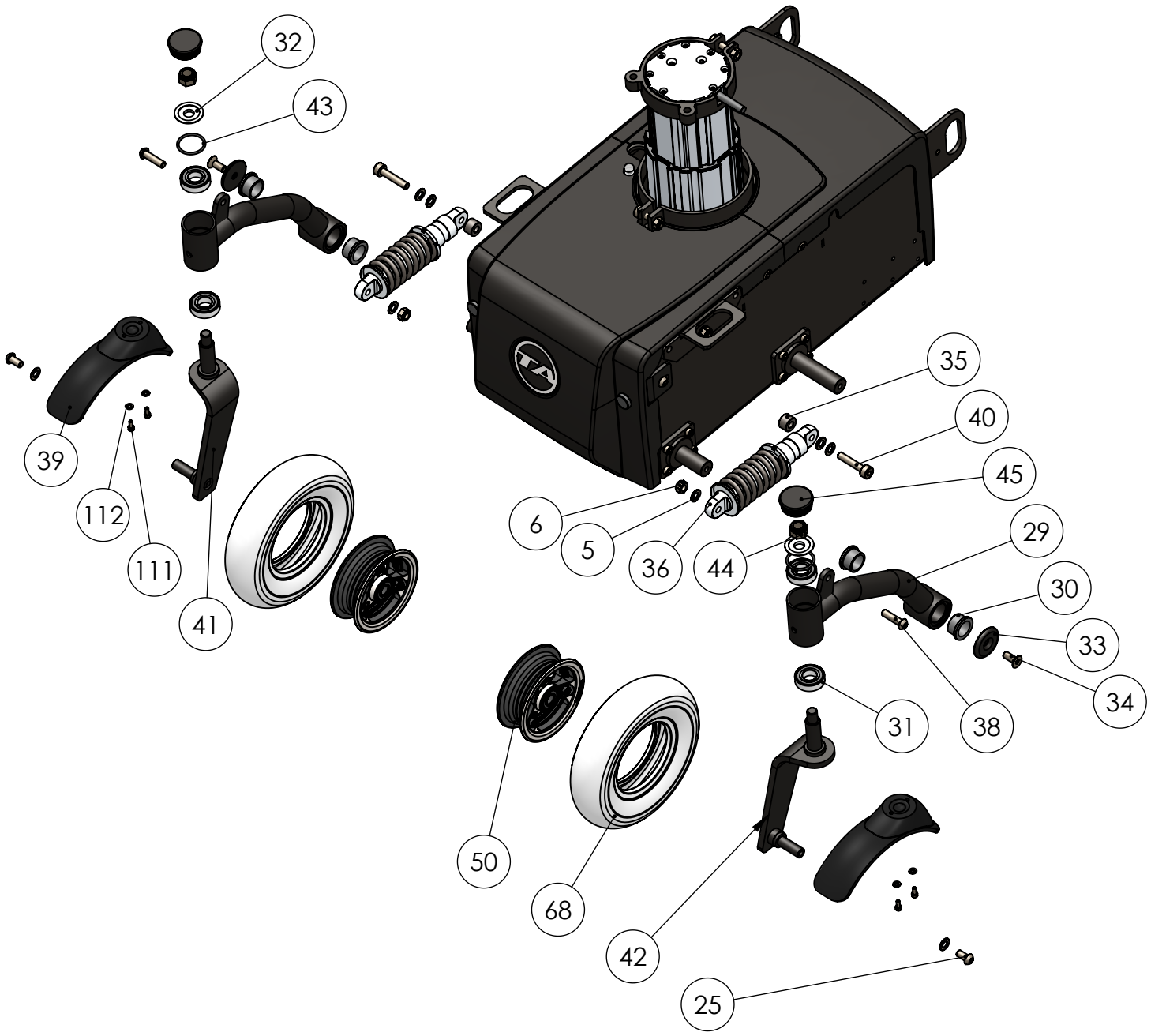
FWD-A



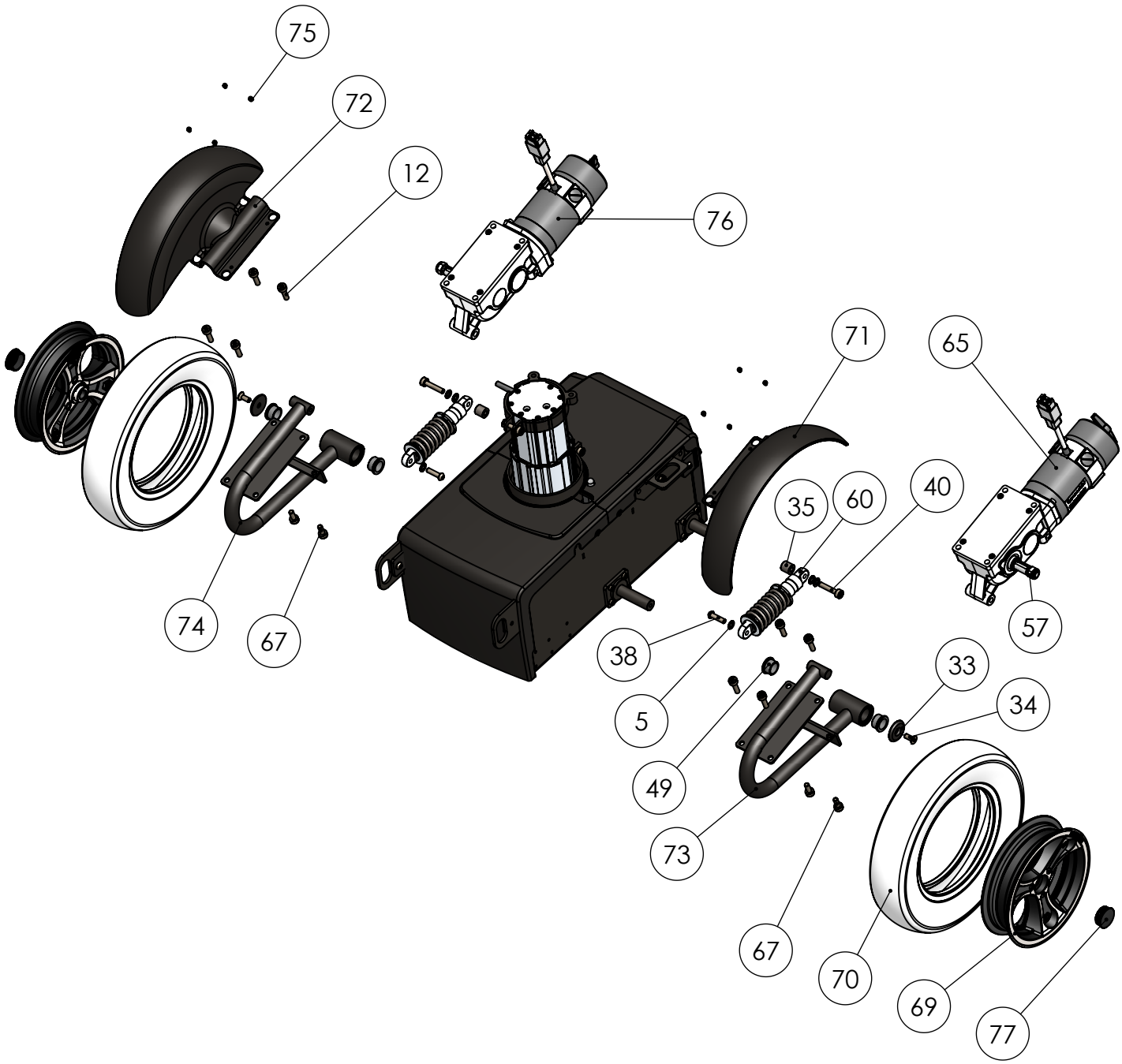
FWD-B



FWD-C



FWD-D



TA iQ Part List - FWD

FWD-A

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
1	Frame P-7	Iron		1
2	Tie down P-10	Iron		2
3	BH-M8x10	Iron		4
4	US-M8x25	Iron		2
5	SK-M8x1,5	Iron		2
6	LM-M8	Iron		2
7	Support ring P-11	Iron		1
8	Swing wheel shaft P-12	Iron		2
9	CH-M6x12	Iron		16
10	Drive wheel shaft P-13	Iron		2
11	Lifting column	Alu, iron, plastic	97104	1
12	CH-M8x30	Iron		2
13	M-M8	Iron		2
14	US-M5x30	Iron		4
15	Thermal fuse EL-2	Iron, platic		1
16	Fuse cover EL-3	Plastic, metal		1
17	Upper support ring	Iron		1
47	Spring for tighning wires	Metal	97278	1
54	Wheel for spring	Plastic	97125	1
58	CH-M3x10	Iron	80543	1

FWD-B

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
3	BH-M8x10	Iron		4
18	Front shield FWD/MWD	ABS plastic	97146	1
19	Rear shield FWD/MWD	ABS plastic	97147	1
20	TA Logo	Stainless steel	97150	1
21	Rear battery bracket	Iron		1
22	Hex-M6x16	Iron		2
23	12V 63Ah battery	Gel battery	97101	2
24	Front battery bracket	Iron		1
26	Power module	Metal, plastic	95164	1
27	CH-M5x16	Iron		2
27A	BH 5X8 for cable-plug	Iron		1
28	Shield finger screw M6	Iron, plastic		2

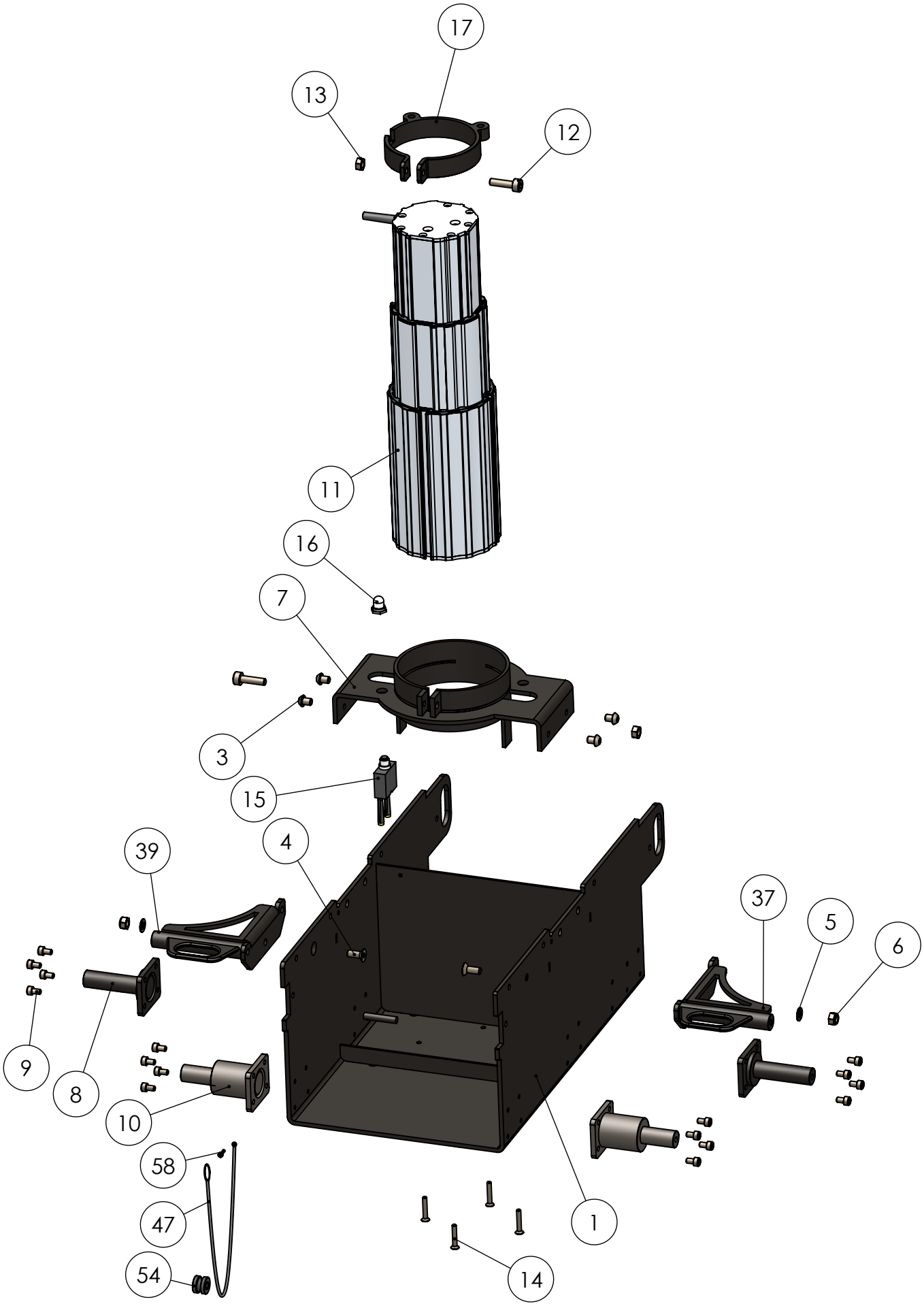
FWD-C

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
5	SK-M8x1,5	Iron		8
6	LM-M8	Iron		2
25	BH-M8x16	Iron		2
29	Swing arm P-4	Iron		2
30	Swingarm bush P-3	Plastic		4
31	Bearing 6003	Metal, rubber		4
32	Ring for swingwheel	Metal		2
33	End cap	Iron		2
34	US-M8x20	Iron		2
35	Spacer P-15 9mm	Iron		2
36	Suspension 450 lbs FWD	Metal	97155	2
38	BH-M8x30	Iron		2
39	Mudguard for swingwheel	Plastic		2
40	CH-M8x40	Iron		2
41	Fork Left FWD/RWD	Iron	97279	1
42	Fork Right FWD/RWD	Iron	97114	1
43	O-ring for swingwheel	Iron		2
44	LM-M12	Iron		2
45	Plastic cap	Plastic		2
50a	Swing wheel rim silver	Metal	97205	2
50b	Swing wheel rim black	Metal	97208	2
68a	Swing wheel 200x50 flexel gray	Rubber	97180	2
68b	Swing wheel 200x50 air tire gray	Rubber	97182	2
68c	Swing wheel 200x50 rubber tube	Rubber	97184	2
111	CH-M4x10	Iron		4
112	SK-M4x1	Iron		4

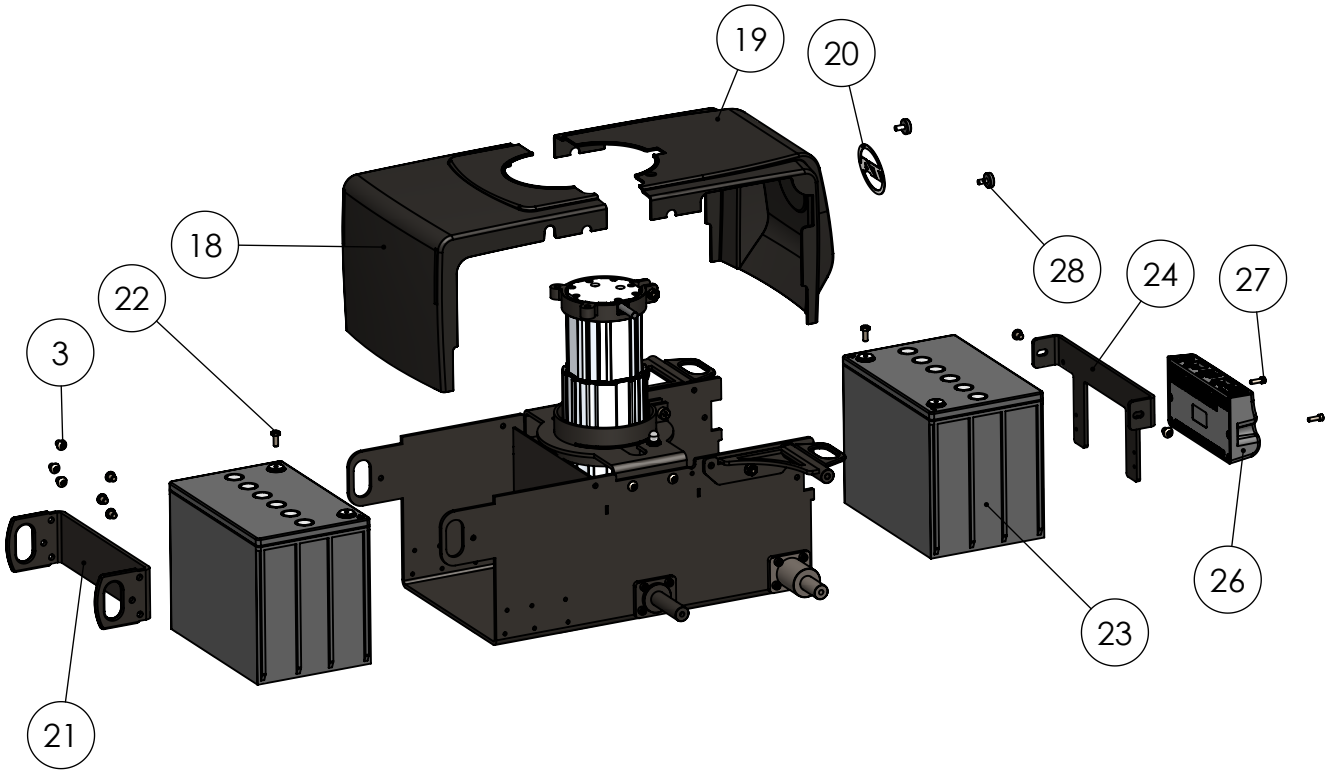
FWD-D

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
5	SK-M8x1,5	Iron		6
12	CH-M8x30	Iron		8
33	End cap	Iron		2
34	US-M8x20	Iron		2
35	Spacer P-15 14 mm	Iron		2
38	BH-M8x30	Iron		2
40	CH-M8x40	Iron		2
49	Pom bush	Plastic		4
57	Nut M12x1,5	Iron		2
60	Suspension 550 lbs	Metal	97156	2
65	Motor right	Metal, plastic	97140	1
67	CH-M8x20	Iron		4
69a	Drive wheel 3.00-8 rim silver	Metal, plastic	97206	2
69b	Drive wheel 3.00-8 rim black	Metal, plastic	97207	2
70a	Drive wheel 300-8 air tire gray	Rubber	97181	2
70b	Drive wheel 300-8 flexel gray	Rubber	97179	2
70c	Drive wheel 300-8 rubber tube	Rubber	97183	2
71	Mudguard Right FWD/RWD	ABS Plastic	97144	1
72	Mudguard Left FWD/RWD	ABS Plastic	97145	1
73	Motor bracket Left	Iron		1
74	Motor bracket Right	Iron		1
75	CH-M4x5	Iron		8
76	Motor Left	Metal, plastic	97141	1
77	Wheel cap	Plastic		2
112	SK-M4x1	Iron		8

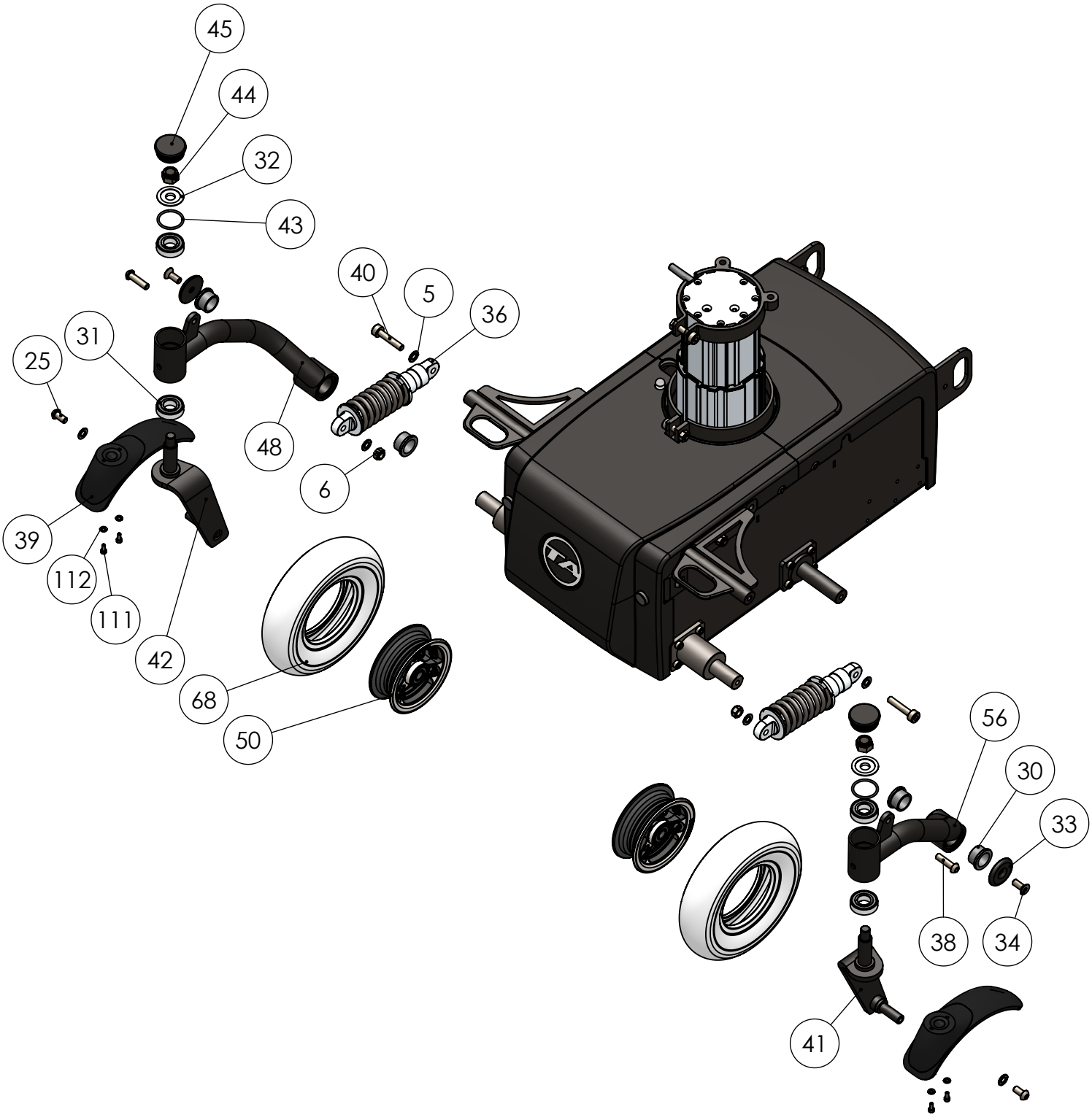
RWD-A



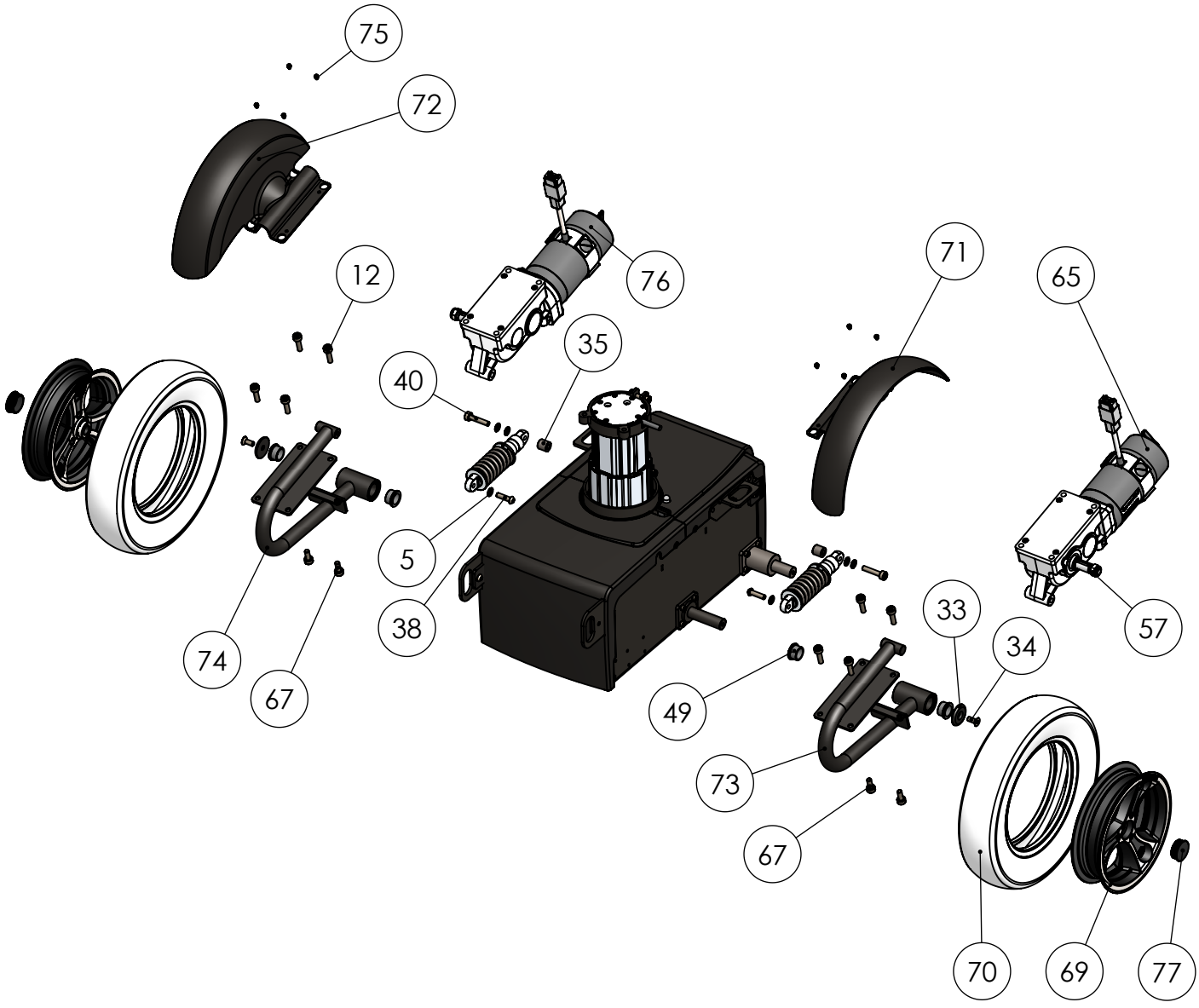
RWD-B



RWD-C



RWD-D



TA iQ Part List - RWD

RWD-A

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
1	Frame P-7	Iron		1
3	BH-M8x10	Iron		4
4	US-M8x25	Iron		2
5	SK-M8x1,5	Iron		2
6	LM-M8	Iron		2
7	Support ring P-11	Iron		1
8	Swing wheel shaft P-12	Iron		2
9	CH-M6x12	Iron		16
10	Drive wheel shaft P-13	Iron		2
11	Lifting column	Alu, iron, plastic	97104	1
12	CH-M8x30	Iron		2
13	M-M8	Iron		2
14	US-M5x30	Iron		4
15	Thermal fuse EL-2	Iron, platic		1
16	Fuse cover EL-3	Plastic, metal		1
17	Upper support ring	Iron		1
37	Tie down Left RWD	Iron		1
39	Tie down Right RWD	Iron		1
47	Spring for tighning wires	Metal	97278	1
54	Wheel for spring	Plastic	97125	1
58	CH-M3x10	Iron	80543	1

RWD-B

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
3	BH-M8x12	Iron		6
3A	BH-M8x10	Iron		2
18	Front Sheild RWD	ABS plastic	97201	1
19	Rear shield RWD	ABS plastic	97202	1
20	TA Logo	Stainless steel	97150	1
21	Rear battery bracket RWD	Iron		1
22	Hex-M6x16	Iron		2
23	12V 63Ah battery	Gel battery	97101	2
24	Front battery bracket	Iron		1
26	Power module	Metal, plastic	95164	1
27	CH-M5x16	Iron		2

RWD-C

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
5	SK-M8x1,5	Iron		6
6	LM-M8	Iron		2
25	BH-M8x16	Iron		2
30	Swingarm bush P-3	Plastic		4
31	Bearing 6003	Metal, rubber		4
32	Ring for swingwheel	Metal		2
33	End cap	Iron		2
34	US-M8x20	Iron		2
36	Suspension 450 lbs RWD	Metal	97155	2
38	BH-M8x30	Iron		2
39	Mudguard for swingwheel	Plastic		2
40	CH-M8x30	Iron		2
41	Fork Left FWD/RWD	Iron	97279	1
42	Fork Right FWD/RWD	Iron	97114	1
43	O-ring for swingwheel	Iron		2
44	LM-M12	Iron		2
45	Plastic cap	Plastic		2
48	Swingarm FR	Iron		1
50a	Swing wheel rim silver	Metal	97205	2
50b	Swing wheel rim black	Metal	97208	2
56	Swingarm FL	Iron		1
68a	Swing wheel 200x50 flexel gray	Rubber	97180	2
68b	Swing wheel 200x50 air tire gray	Rubber	97182	2
68c	Swing wheel 200x50 rubber tube	Rubber	97184	2
111	CH-M4x10	Iron		4
112	SK-M4x1	Iron		4

27A	BH 5X8 for cable-plug	Iron		1
28	Shield finger screw M6	Iron, plastic		2

RWD-D

DRAW. NO.	PART	DESCRIPTION	ITEM NO.	QTY.
5	SK-M8x1,5	Iron		16
12	CH-M8x30	Iron		8
33	End cap	Iron		4
34	US-M8x20	Iron		4
35	Spacer P-15 17 mm	Iron		2
38	BH-M8x30	Iron		2
40	CH-M8x40	Iron		2
49	Pom bush	Plastic		4
57	Nut M12x1,5	Iron		2
60	Suspension 450 lbs	Metal	97155	2
65	Motor right	Metal, plastic	97140	1
67	CH-M8x20	Iron		12
69a	Drive wheel 3.00-8 rim silver	Metal, plastic	97206	2
69b	Drive wheel 3.00-8 rim black	Metal, plastic	97207	2
70a	Drive wheel 300-8 air tire	Rubber	97181	2
70b	Drive wheel 300-8 flexel	Rubber	97179	2
70c	Drive wheel 300-8 rubber tube	Rubber	97183	2
71	Mudguard Right FWD/RWD	ABS Plastic	97144	1
72	Mudguard Left FWD/RWD	ABS Plastic	97145	1
73	Motor bracket Left	Iron		1
74	Motor bracket Right	Iron		1
75	CH-M4x5	Iron		8
76	Motor Left	Metal, plastic	97141	1
77	Wheel cap	Plastic		2
112	SK-M4x1	Iron		8