

ATV TRACK

OPERATOR'S MANUAL



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IT IS THE RESPONSIBILITY OF THE OPERATOR TO CARE ABOUT COSTUMER SAFETY AT ALL TIMES. PLEASE READ AND OBSERVE THE NOTES ON SAFETY DESCRIBED IN THIS MANUAL.

About ATV TRACK

Thank you for purchasing this Gaelco S.A. product. This manual explains how to safely operate your game machine. Failing to operate the machine correctly could result in malfunction or accident, so please read the manual carefully before starting operation, specially the SAFETY NOTES (Section 3).

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Note: Operator's Manual Specifications are subject to change without prior notice

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ATV TRACK has been manufactured in accordance with European Community directives. Any changes or modifications to this machine has to be authorised by Gaelco S.A. and must be in accordance with the European Community directives.

Using spear parts that do not fit specifications will void the warranty. Removal of serial numbers and/or bar codes from product or components will void the warranty.

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FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part A of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operating in a commercial environment. This equipment uses, and can radiate radio frequency energy, if not installed and used according to the instruction manual, and may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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1. GENERAL INFORMATION

1.1 MANUFACTURER AND MACHINE DATA

Manufacturer	GAELCO, S.A.
Address	Escipión 11
ZIP	08023
City	Barcelona
Country :	SPAIN
Tel.	34 93 417 36 26
Fax	34 93 417 28 02
e-mail	gaelco@gaelco.com

Name of the game	ATV TRACK
Model	MOTION

1.2 LEGISLATION REFERENCES

EM EMISSION

- EN 61000-3-2 (1995), Harmonics
- EN 61000-3-3 (1995), Fluctuations
- EN 55022 (1994), Continuous conducted emission (Class A)
- EN 55022 (1994), Radiated emission (Class A)

EM IMMUNITY

- EN 61000-4-2 (1995), ESD
- EN 61000-4-3 (1996) & ENV 50204 (1995), Radiated field of RF
- EN 61000-4-4 (1995), EFT burst
- EN 61000-4-5 (1995), Surges
- EN 61000-4-6 (1996), RF common mode
- EN 61000-4-8 (1993), 50 Hz H-field
- EN 61000-4-11 (1994), Dips, interruptions

ELECTRICAL SAFETY

UNE EN 60335-1 (1997) + Erratum (1997) + A11 (1997) + A12 (1997) + A13 (1999) + A14 (1999) + Erratum (1999).

Note: Test passed in Motion Test mode

1.3 TECHNICAL SERVICE

Gaelco S.A. or its Distributors carry out technical Service.

1.4 RESPONSIBILITY

Any modifications made to this machine that are not authorised in writing by the manufacturer will be considered to be at the exclusive responsibility of the operator, who will consequently become the new "manufacturer" and must operate in compliance with the European Community directives.

In case of an accident caused by a defective part, the manufacturer will assume responsibility only if the machine was defective in its original condition. However, this responsibility shall be diminished or even totally annulled if the operator or the player do not follow the instructions provided or if the operator uses spare parts that are not covered by guarantee, are not authorised in writing or do not correspond to the specified technical characteristics.

2. SPECIFICATIONS

GAME DESCRIPTION

ATV TRACK is an arcade game that challenges the player's ability to ride a QUAD through a course plenty of natural obstacles, by using a handlebar with throttle and two brake levers.

The goal of the player is to complete in succession the four phases of the game. The MOTION model of the ATV TRACK game machine is powered by an electric motion system that delivers very realistic sensations to the player.

Two players can also compete one against each other when the machines are linked.

DIMENSIONS AND WEIGHT

1) Crate dimensions and shipping weight of each module

	width	depth	height	weight
Monitor cabinet	990 mm	1190 mm	1920 mm	205 Kg
Seat platform	990 mm	1190 mm	1300 mm	240 Kg

2) Dimensions and net weight of each module unpacked

	width	depth	height	weight
Monitor cabinet	870 mm	970 mm	1760 mm*	190 Kg
Platform	880 mm	1150 mm	1250 mm	225 Kg

* Without the billboard

GAELCO - ATV QUADS TRACK

3) Total dimensions of the machine, installed on site

width	depth	height
880 mm	2356 mm	2135 mm

POWER SUPPLY

Operating Power: 220-230 VAC, 50 Hz
Output: +5VDC 20A, +12VDC 8A

MONITOR

34" Hantarex Polo/2 STAR PH, code 01297790

CPU BOARD

PCB Gaelco ATV TRACK

CONTROLS

- Interactive handlebar
- Start Button/View change (placed on the throttle)
- Throttle (accelerator grip)
- Right brake lever
- Left brake lever
- Emergency Stop button (placed on top of the fuel tank)
- Safety Stop system (activated when the rider footrest are not pressed)

PCB Gaelco ATV TRACK

MOTION SYSTEM

Degrees of freedom: 2 DOF

Actuators: 2 induction motors (geared), 0.75KW each

Control: 2 frequency inverters SE1120075, input voltage 230V +/-10%, 50/60Hz

ATTACHMENTS

Operator's Manual	(1)
Motor driver manual	(1)
Monitor Manual	(1)
Coin box keys	(2)
Monitor cabinet keys	(2)
Power cord (3m long)	(1)
Link cable	(1)
Monitor cable (remote control)	(1)

3. SAFETY NOTES

In order to use this machine safely please read carefully this Manual BEFORE the installation, use or maintenance of the machine.

This Operator's Manual and others manuals delivered with the machine must be available to the operating and service personnel.

When transporting or reselling the machine, be sure to attach this Manual.

The ATV TRACK machine has been designed for indoor use only, within residential or commercial areas, and must be used exclusively for the purpose intended.

GAELCO S.A. bears no responsibility for accidents, injury or damage resulting for unauthorized changes or improper use of the machine.

WARNING

To avoid accidents or damages, it is imperative to follow the notes on Safety resumed bellow, as well as all those included in the following sections:

- SECTION 4. MATERIAL HANDLING
- SECTION 5. UNPACKING, ASSEMBLING & INSTALLATION
- SECTION 9. TECHNICAL SERVICE

3.1 GENERAL SAFETY CONSIDERATIONS



- Before operating the machine, check that it has been installed correctly and in accordance with this Manual.
- As some parts of the machine move during game play, there are places where the distance between the stationary section and the mobile section changes. Despite the measures implemented to avoid accidents, if the operator feels that a person is in any danger, he should warn that person or stop the machine immediately by using the Emergency Stop button.
- The warning notices (stickers) must be kept in such condition that customers can read them easily.
- Installation, service or routine maintenance should be carried out by qualified personnel.
- Before connecting the machine to the mains supply, verify that it is set for the correct voltage and that the proper fuses are already installed.
- When replacing fuses, use spare fuses of the same type and rating than the originals. The use of other material can cause serious damages on the electronic circuits or even a fire hazard. Check the Parts List to know the exact specifications.
- The machine includes areas of high voltage. Care must be taken at all times to avoid electrical shock whenever inspecting or adjusting the equipment, particularly around the monitor.
- To ensure safe operation, the machine must be grounded with a plug securely connected to Earth.
- Do not turn ON the power switch until the machine has been installed on its dedicated place.

If there is any error or problem with this machine, operation must be stopped immediately.

3.2 SAFETY PRECAUTIONS CONCERNING LOCATION



Do not place the machine where it might be an obstacle in case on emergency (i.e. close to fire extinguishers or emergency exits).

Install and operate the machine in places where appropriate lighting is available, so warning labels can be clearly read by the customers.

This machine has been for indoor use only, within residential or commercial spaces. Absolutely do not set up the machine outdoors or under the following conditions:

- Direct exposure to sunlight, high humidity, water contact, dust, high heat or extreme cold.
- In locations near containers holding liquids or liquid dispensing equipment. In general, precautions should be taken against spilling liquids of any kind whatsoever over the machine
- In a place exposed to vibration. The machine must be installed on a level surface with levellers properly adjusted.
- In locations near ventilating holes. Doing so could cause internal temperature to rise excessively, resulting in equipment failure.
- Near hazardous substances

Furthermore:

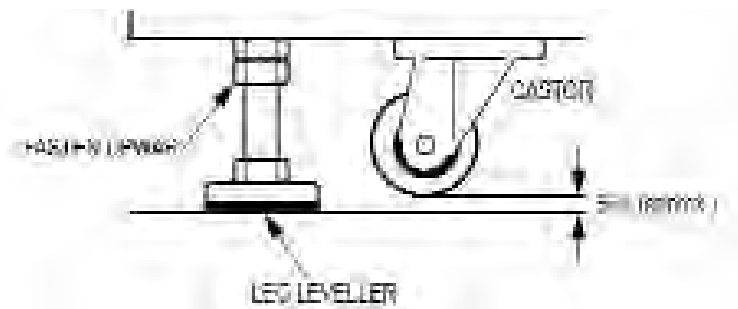
- In order to have easy access to the PSU, CPU and control devices, please make sure that the rear and sides of the machine are separated from the wall or other machines by at least 300mm (12")
- Ventilation slots must be not obstructed, and the machine must be positioned so as to leave a distance of at least 100mm (4") from possible obstructions
- Do not run the power cord across passages where pedestrian's feet could get caught on the cord.
- Ensure that the location's power supply is equipped with an Earth Leakage Breaker rated at 30mA.

GAELCO shall not be held responsible for any damage resulting from the failure to observe these instructions.

3.2.1 SECURING IN PLACE

Ensure that all the leg levellers make firm contact with the surface of the floor. This precaution is crucial for the ATV-TRACK version with motion system, because the machine can move of itself, causing an accident.

After making the adjustment of all legs, secure the height of each one by fastening upward the nut.



3.3 PRECAUTIONS TO BE HEDED WHEN MOVING THE MACHINE



The machine can easily moved by using their castors. When moving the game machine, always retract the levellers to the extreme up position, so the castors can make contact with the floor. Please ensure that the levellers are raised fully when moving the machine, even for short distances. Furthermore:

- Do not use the handlebar or the rear handle to move the platform (rider assembly), unless the levellers are raised fully.
- When moving the machine on slopping or uneven surfaces or across steps, proceed with extreme caution to avoid the risk of being crushed!
- If there are steps or step-like differences in grade, move the machine by separating into each unit. Be sure to catch the bottom part.
- During transportation, pay attention so that de castors do not thread power cords.
- Ensure that there is enough room to get through doors or to avoid any collision with elements hanging from the ceiling. Read section 4 to know the dimensions of the machine.

The two units of the machine are not equipped with lifting rings. It is therefore absolutely prohibited to lift them with ropes or belts!

3.4 PRECAUTIONS TO BE HEEDED DURING OPERATION



Please heed the following indications in order to ensure the safety of the customers when using this game machine. Be sure to read and get a good understanding of each item:

- Before starting the operation, please check if all the level adjusters are in firm contact with the surface of the ground. If they are not, the cabinet can move and cause an accident.
- Do not use the machine as support for other objects.
- Do not put on the machine or near by any kind of receptacle containing chemicals or water.
- Ensure to provide enough space around the machine to avoid the risk of injury or trouble. Insufficient installation space can cause the player to come in contact with spectators or hit them.

In order to avoid injury and accidents, it is not allowed to use the machine to those persons who fall under the following cases:

- Intoxicated persons.
- Persons susceptible to motion sickness.
- Persons who are not in good health, such those having problems of high blood pressure or heart malfunctions.
- Pregnant women
- Persons whose acts do not observe the warning notices.
- Persons whos could be unable to support themselves at both footrests being sitting (disabled people, children, etc.).

Despite the machine is fitted with protection hoods to avoid access to potentially dangerous places, do not allow customers to put hands, fingers or extraneous matter in any opening of the cabinet.



Playing this game with high-heeled shoes is likely to cause a potentially hazardous situation.

3.5 SAFETY DEVICES CONCERNING THE MOTION SYSTEM

The ATV-TRACK / MOTION machine has two dedicated devices that provide additional safety to the player when the game is running:

- An EMERGENCY STOP BUTTON placed on top of the fuel tank, which can be easily activated by the player or the operator at any time. The game keeps running but the motion stops until the button is unlocked manually by turning it clockwise.
- A SAFETY STOP SYSTEM, that stops motion immediately if the player does not press simultaneously both rider footrest. The game still runs but the machine does not move until both footrest are pressed.

The combined action of these two devices reduces the possibility of an accident resulting from sudden sickness or improper use of the machine while it is moving.

4. MATERIAL HANDLING

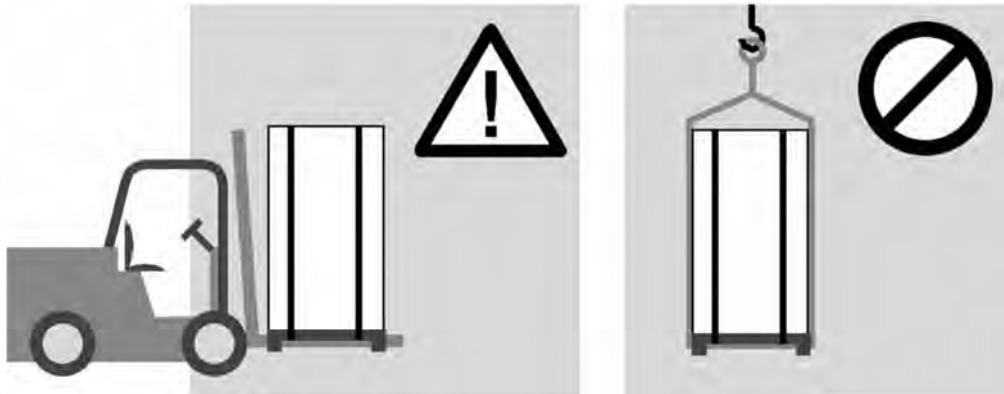


This machine should be transported or moved by trained persons. Failing to do so could result in injury or product damage. Please be very careful.

4.1 TRANSPORT OF PACKAGED UNITS

The packaged machine must be transported in a closed means of transport with sufficient carrying capacity for the gross weight of the machine, which is 205Kg for the monitor cabinet and 240Kg for the platform. The machine, must remain packaged on its pallet must be suitably secured to the means of transport. It is very important that the lifting forks are pushed right to the back of the wooden pallet, to give optimum stability to the load.

CODE	width	depth	height	crate weight
MONITOR CABINET	990 mm	1190 mm	1920 mm	205 Kg
PLATFORM	990 mm	1190 mm	1300 mm	240 Kg



It is not allowed to lift the packed machine with ropes or belts, as the package is not equipped with suitable lifting points for this type of transport.

4.2 STORAGE

Store the packed machine in sheltered and dry areas. Temperatures allowed: maximum +45°C / minimum -5°C.

4.3 RECEPTION

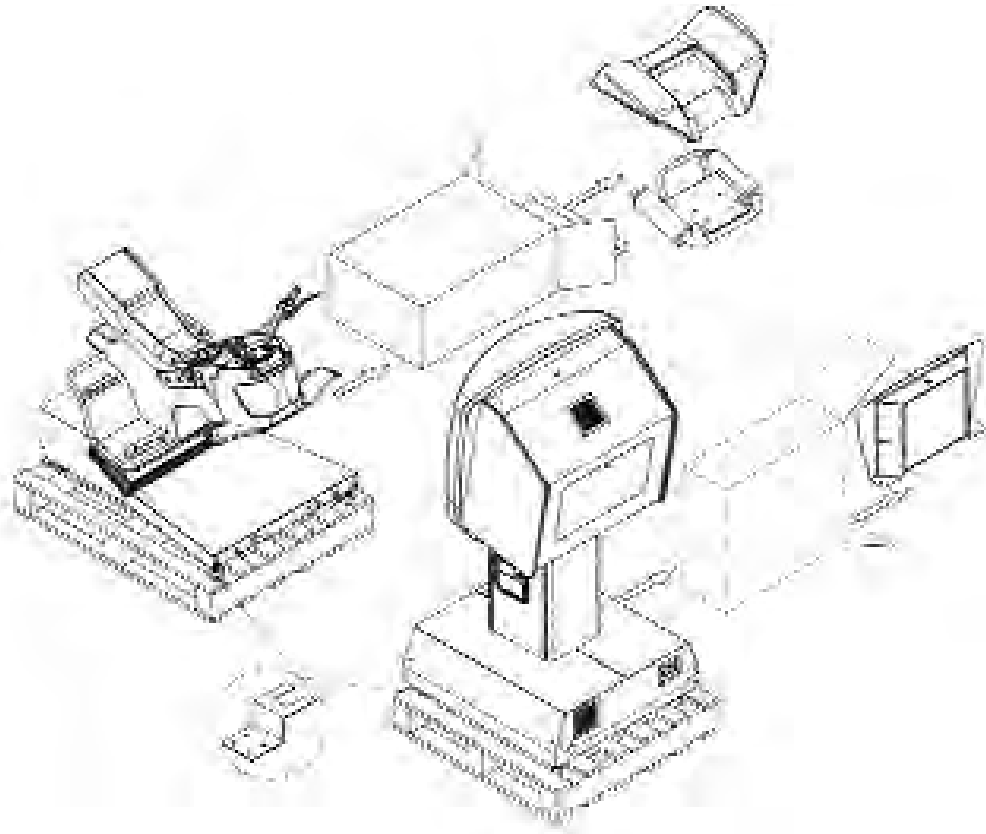
The ATV-TRACK packaging should be carefully inspected upon receipt to ensure that the product is delivered in good conditions.

Shipping damage may void warranty. In case of shipping damage, contact your Distributor and the Transportation Carrier immediately. See section 5.1 for further inspection.

5. UNPACKING, ASSEMBLING and INSTALLATION

It is best to unpack the machine where it is going to be used or in a place as near as possible to this. Two people are needed to lift the cardboard packaging over the top of each unit.

Once the packaging is removed, the machine looks as shown in the illustration.



5.1 INSPECTION BEFORE ASSEMBLING

Normally, GAELCO products are ready to assemble immediately after transporting to the location. Nevertheless, some mishandling may occur during transportation. Check the following points to ensure that the machine has been properly delivered:

- Examine the cabinet exterior for dents, chips, or broken parts
- Verify that castors and levellers are not damaged
- Inspect the major assemblies, such as the video display monitor, handlebar and seat. Make sure that they are mounted securely and that all ground wires are firmly connected.
- Ensure that the power supply voltage and frequency requirements meet those of the location.
- Ensure that the fuses already installed meet the specified rating and type.
- Inspect the power cable to ensure that it is not damaged.
- Verify that the keys delivered with the machine open all doors.
- Check if all the accessories are included.

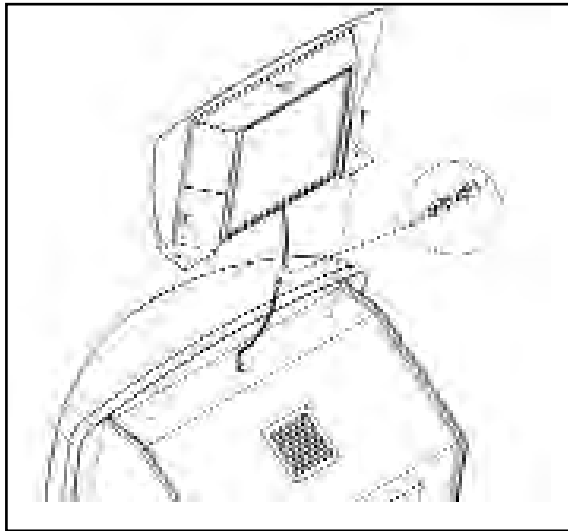
5.2 ASSEMBLING & INSTALLATION

To assemble the machine proceed as follows:

1. Take out the boxes containing the accessories.
2. Remove the metal brackets that fix each unit to its pallet.



3. Raise the leg levellers and put the units down on the floor with the help of a ramp. Be very careful to avoid the risk of being crushed!

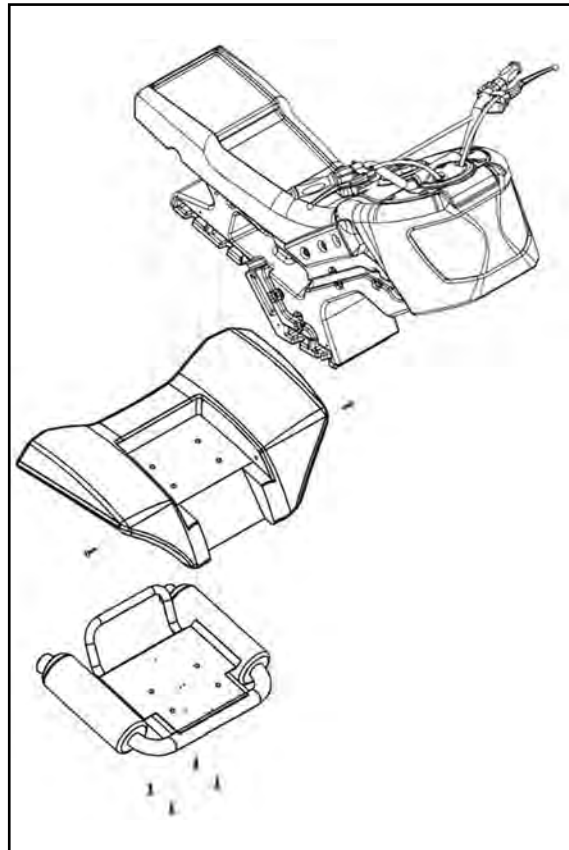


4. Assemble the billboard on the top of the monitor cabinet, **using a step**. Do not climb on the cabinet!

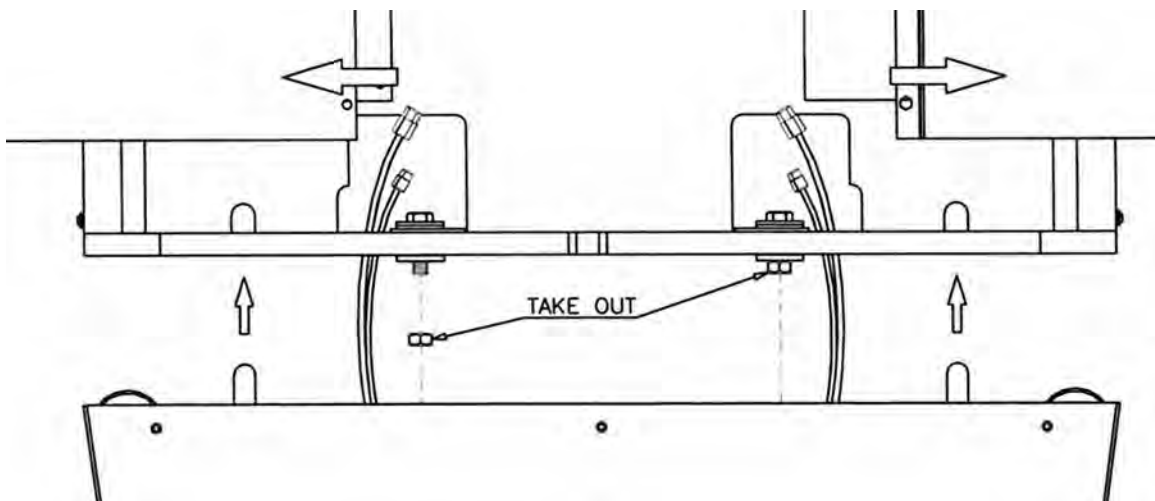


The screws that fix the billboard are already installed on its place. Remove those screw and use them for fixing the billboard. Plug the connector of the fluorescent tube.

5. Assemble the back mudguards and the exhaust pipes. The mudguards are between the chassis and the exhaust pipes, as shown in the drawing. The screws are already installed on the chassis, four on the bottom and one on each side. Take out those screws and use them to fix the assembly. Plug in the the brake light connector.



6. Place the monitor cabinet is at its final location and strictly follow the instructions described in section 3.2. Ensure that the cabinet is level, then secure the height of the leg levelers by fastening the adjuster nut upwards.
7. Proceed to assemble the two units together. This must be done where the machine is to be used. First of all make sure the monitor cabinet is level. Then follow the steps below:
8. Remove the metallic covers of the cabinet.
9. Take out the nuts M12. Those nuts are for shipping purposes only. They are useless for assembling.
10. Approach the two units. Pass the cables coming from the platform through the holes of the monitor cabinet, then push the lugs on the platform into the holes in the base of the monitor cabinet.



11. Level the platform to the same height as the monitor cabinet.
12. Connect the cables of the motion system. Check that all the connectors are OK. Connectors of the monitor cabinet must fit perfectly with those coming from the platform.
13. Tighten the two bolts M12 that fasten the platform to the monitor cabinet. The corresponding nuts are welded to the base of the platform.
14. Replace the covers of the monitor cabinet.
15. If the machine has to be moved, even just a little bit, retract the leg levellers first.
16. Carefully adjust all the levellers so that the whole machine rests firm and level on the floor. (See section 3.2). Remember that the platform contains a motion system!

To clean the game machine, wipe with a soft cloth damped with a neutral detergent and wrung out. Using organic solvents like thinner may damage the plastic parts.

5.3 GETTING READY TO START



BEFORE SWITCHING ON THE MACHINE, PLEASE CHECK THAT THE INTALLATION FITS ALL THE REQUIREMENTS DESCRIBED ON CHAPTER 3 (SAFETY NOTES) AND ESPECIALLY THOSE OF SECTION 3.2

The installation of the machine at its final site should be carried out by trained people. Mains power must be always be turned off, and the machine unplugged, before replacing any part or handling connectors. Please check the following points again:

- The area chosen for the machine is well away from heat sources.
- The machine does not obstruct emergency exits.
- The whole machine is level and stable on the floor. The leg levellers are secured in place.
- The power cord can be plugged into a grounded receptacle that provides the specified voltage and frequency.
- The mains supply is equipped with an Earth Leakage Breaker rated at 30mA.

5.4 SWITCHING ON THE MACHINE

The mains switch is located in the compact filter assembly, which also contains the fuse and the socket for the mains cable. It is found in the back of the monitor cabinet.

To start the machine, push the switch to position "I".

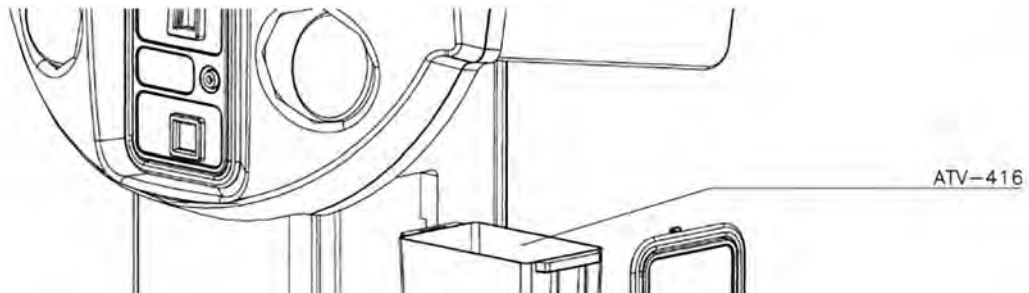
The machine can be switched OFF (position "0") whenever necessary. If a game is in progress on the machine, the credit will be lost.

To avoid possible damage to the electronic components, wait several seconds before turning the machine on again.

6. PROGRAMMING THE MACHINE AND TEST MODE

An automatic check of the memories is made when the machine is switched on. This coincides with the presentation of the Screen Test. After a few seconds, if no error occurs, it automatically goes on to show the game. The interface is also adjusted dynamically each time that a machine is switched on. Any other adjustment should be made in TEST MODE.

The access to the TEST MODE as for the other controls -monitor, sound, etc.- is made from the CONTROL PANEL, which is situated behind the coin box door. This panel consists of a button to access TEST MODE, a coin counter, a SERVICE button, and a commuter to adjust the VOLUME of the loudspeakers.



Pressing the TEST button enters TEST MODE, where the game variables, such as level of difficulty, linkage of machines, etc., can be adjusted. A check of the motion system and other controls can also be made. The SERVICE button allows the technician to introduce game credits without moving the coin counter.

The main menu of TEST MODE offers seven options:

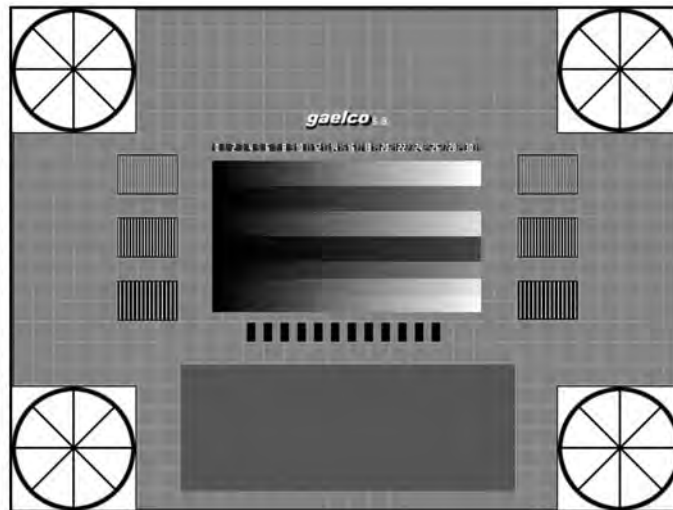
- SCREEN TEST
- INPUT/OUTPUT
- MOTION SYSTEM
- SETTING
- SOUND
- BOOK-KEEPING
- EXPORT PROGRAM
- EXIT

You can choose the option required by handling the brake levers. Pushing the START button placed on the handlebar makes the selection.

To make sure that the changes that have been made are kept permanently, you must not switch off the machine without first leaving TEST MODE with the option **exit and save settings** of the EXIT screen.

6.1 SCREEN TEST

This screen is the ADJUSTMENT CARD, which should be used to suitably adjust the monitor. It shows you, also, information about the installed software version.



You can return to the Main Menu by pushing the TEST button (placed on the control panel) or the START button (placed on the handlebar).

6.2 INPUT/OUTPUT TEST

The INPUT/OUTPUT screen enables you to check the correct functioning of the following controls:

Start Button	Placed on the throttle assembly (handlebar)
Emergency Stop (see warning)	Placed on top of the fuel tank
Coin Chute	Coin Acceptor
Service Button	Placed on the Control Panel
Test Button	Placed on the Control Panel
Volume Down	Placed on the Control Panel
Volume UP	Placed on the Control Panel
Left Brake Lever	Rear brake
Right Brake Lever	Front brake
Throttle	The number on the left goes from 0.00 (no acceleration) to 1.00 (maximum acceleration)
Handlebar Position	The number on the left goes from -1.00 (top left position) to 1.00 (top right)
Steering Motor	Feedback force. The number of the left goes from 1.00 (handlebar on top left position) to -1.00 (top right)

The control signal is selected by means of the brake levers. The status of each signal changes when the related control device is activated.

The INPUT/OUTPUT screen looks like this:

TEST MODE (INPUT / OUTPUT)	
Start Button	OFF
Emergency Stop	ON (ver nota)
Coin Chute	OFF
Service Button	OFF
Test Button	OFF
Volume Down	OFF
Volume UP	OFF
Left Brake Lever	OFF
Right Brake Lever	OFF
Throttle	0.00 (014)
Handlebar Position	0.10 (126)
Steering Motor	-0.10

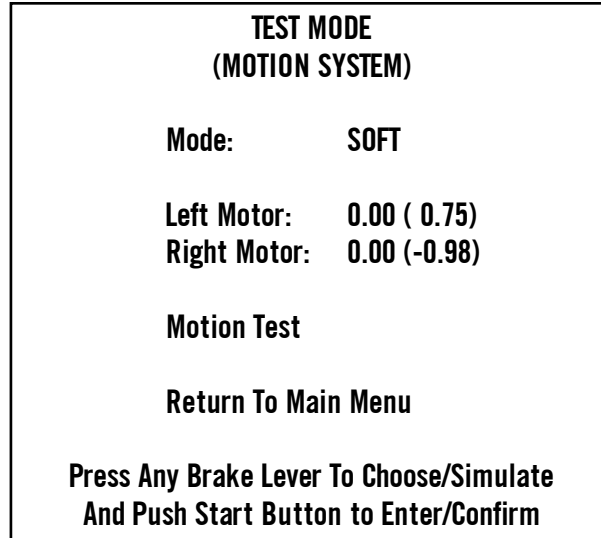
Push Start Button to return to Main Menu

Warning! When checking the EMERGENCY STOP, remember that the message displayed on the screen is ON when the button is released. So, if the message is "OFF", it means that the button is working (motion system disabled). Once pushed, the button will remain mechanically locked until you turn the red knob clockwise.

When you want to return to the main menu, just push the START button.

6.3 MOTION SYSTEM TEST

This screen enables you to check some functions related to the motion system.



Mode

There are three working modes of the motion system:

- **DISABLED** The motion system does not work.
- **SOFT** The motion is quite soft during the initial phases of the game, then comes harder.
- **HARD** The motion is hard from the beginning of the game.

Left Motor / Right Motor

This is an option for maintenance purposes that allows a manual control of each motor, using the brake levers (right lever to move up, left to move down). The left number shows the speed while the number between the brackets shows the position.

Motion Test

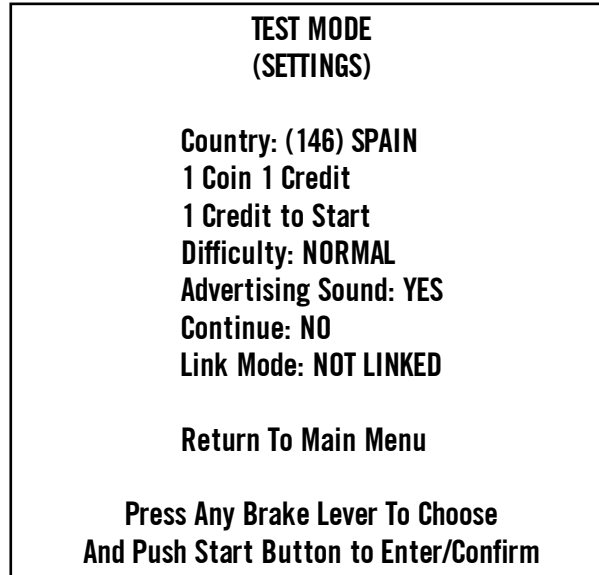
The system moves following a repetitive pattern, allowing you to see if there is anything wrong with it.

Return to Main Menu

You leave the screen by choosing this option and then pushing the START button.

6.4 SETTINGS

You can change the following game parameters on this screen:



The parameter is selected with the brake levers, then changed by pushing the START button.

Country

This option allows you to change the idiom of some messages addressed to the player.

Coin / Credit

On this option you can adjust the number of credits (games) that the machine gives for a defined number of coins. If the number of coins is set at zero, the machine remains adjusted for FREE PLAY.

Credit to start

Here you can program the number of coins required to start the game.

Difficulty

The game has four levels of difficulty: EASY, NORMAL, HARD and HARDEST.

Advertising sound

By means of this option you can program the machine for sound production (or mute) when it is in display mode.

Continue

When this option is enabled, the player can start a game from the last stage passed on the previous game.

Link

This line shows the status of the machine. If it is linked with another machine you have to assign a different status to each one of them. One should be MASTER and the other

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SLAVE as indicated on the options (MASTER-RIGHT CABINET / SLAVE-LEFT CABINET).
If there is any interconnection problem, the following messages can appear on the screen:

LINK ERROR: master/slave duplicated

This message means that both machines are configured with the same status, either master or slave, so they do not communicate properly.

LINK ERROR: data receive error

There is an obvious problem of communication.

LINK ERROR: bad checksum in program

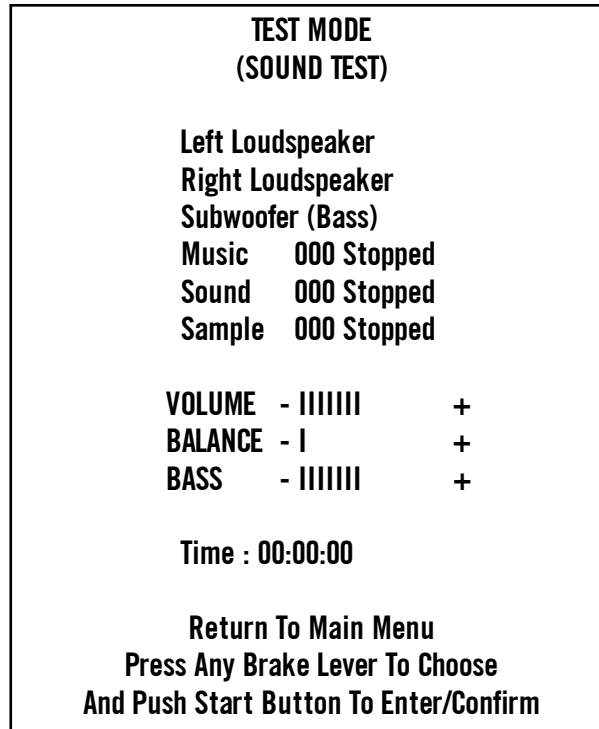
This message use to appear when the machines do not have the same program version. If so, you have to go to the option EXPORT PROGRAM of the Main Menu. (section 6.7)

If there is no link between two machines the option NOT LINKED should be selected.

To leave this screen push the START button after selecting the option "Return To Main Menu".

6.5 SOUND TEST

This screen allows you to check the whole sound system.



To leave this screen push the START button after selecting the option "Return To Main Menu".

6.6 BOOK-KEEPING

The data for the activity of the machine are collected on three screens. To go from one screen to another is necessary to press any of the brake levers. The first screen shows the following information:

TEST MODE (BOOK-KEEPING)	
Total Credits	0082
Coin Credits	0008
Service Credits	0002
Number Of Games	0069
1 P. Practice Games	0004
1 P. Competition Games	0065
2 Players Games	0000
Number Of Continues	0000
Grip Any Brake Lever To Change Push Start To Return To Main Menu	

Reading from top to bottom:

- Total number of credits
- Credits owed for the coins entered
- Credits entered with the SERVICE button
- Total number of games
- Number of games of an individual player, in PRACTICE mode
- Number o games of an individual player, in COMPETITION mode
- Number of games of two simultaneous players (Link Mode)
- Number of games using the Continue option

To go onto the next screen, press any of the brake levers. To return to the Main Menu push the START button.

GAELCO - ATV QUADS TRACK

The second screen shows the following information:

TEST MODE (BOOK-KEEPING)	
Total Time (hh:mm)	203:40
Play Time (hh:mm)	188:55
Longest Game (mm:ss)	15:24
Shortest Game (mm:ss)	00:46
Average Game (mm:ss)	02:43
Longest Distance (Km)	01204
Shortest Distance (Km)	00005
Average Distance (Km)	00544
Press Any Brake Lever To Change Push Start To Return to Main Menu	

Reading from top to bottom:

- Total time the machine is connected in hours, minutes and seconds
- Total time the machine is busy in hours, minutes and seconds
- Time of the longest credit in minutes and seconds
- Time of the shortest credit in minutes and seconds
- Time of the average credit in minutes and seconds
- Longest distance covered in a game (best player)
- Shortest distance covered in a game (worst player)
- Average distance covered in a game (average player)

To go onto the next screen press any of the brake levers. To return to the Main Menu push the START button.

GAELCO - ATV QUADS TRACK

The third screen shows additional information about the game events at each stage. It also includes the number of players who passed all stages (Winners) and those eliminated for spending all the time available (Time out).

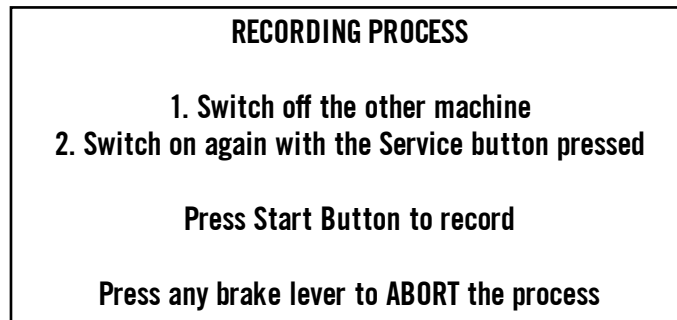
TEST MODE (BOOK-KEEPING)	
Level	Game Over
1.1	0007
1.2	0072
1.3	0131
2.1	0000
2.2	0005
2.3	0004
3.1	0001
3.2	0002
3.3	0009
4.1	0001
4.2	0002
4.3	0008
Winners	0002
Time Out	0035

**Grip Any Brake To Change
Push Start To Return to Main Menu**

To return to the Main Menu push the START button.

6.7 TRANSFER OF THE PROGRAM VERSION

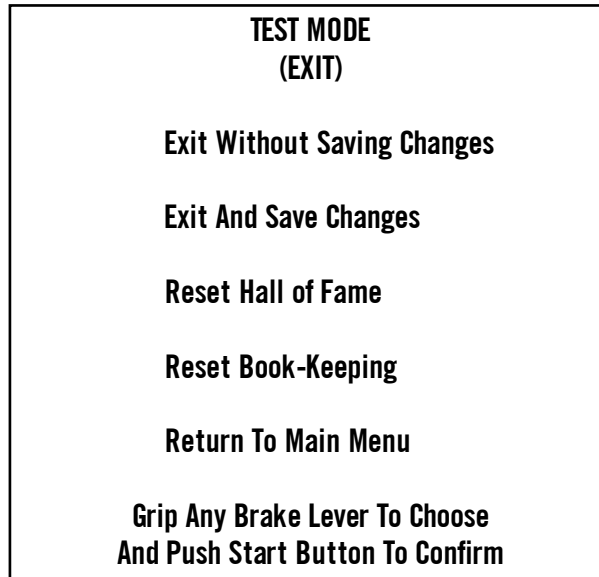
The option EXPORT PROGRAM should be used when two machines are linked and their program versions are different. In such a case, the updated version must be loaded on the PCB that has the older version. The data transfer is done from the machine with the updated program, following the instructions shown on the screen:



The recording process starts when the Start button is pressed, and it lasts about 5 minutes. If anything goes wrong, an error message will appear on the screen. When the process ends successfully, press any of the brake levers to return to the Main Menu

6.8 EXIT Screen

On this screen the following options are displayed:



Reading from top to bottom:

- Exit from Test Mode without keeping the changes
- Exit from Test Mode retaining memory of the changes that have been made in the previous screens
- Erase data of the game record tables that accumulate from day to day.
- Erase the book keeping data.
- Return to Main Menu

Selection is made with the brake levers, while the option chosen is switched in with the START button.

Reset of record tables and book-keeping data is made directly by pushing the START button.

Warning! Whatever the changes that have been selected in the previous screens (SETTINGS & MOTION SYSTEM) will be eliminated unless you exit from this final screen using the option **exit and save changes**, confirmed with the START as indicated on the bottom of the screen.

7. HOW TO PLAY

ATV-TRACK is an arcade game that challenges the player's ability to control a QUAD through a course plenty of natural obstacles, by using a handlebar with throttle and two brake levers.

The goal of the player is to complete in succession the four phases of the game.

Starting the game

To start to play it is necessary to put enough coins to cover the price of at least one credit. The number of coins introduced is shown together with the number of coins necessary to obtain one credit. For example, if the programmed number of coins per credit is two, the displayed message will be, step by step: "Credits 0 / 2", "Credits 1 / 2" and "Credits 1". The cost of a credit is programmed from Test Mode (see section 6.4, SETTINGS).

When the necessary coins have been put in, the message "INSERT COIN" changes to "PUSH START BUTTON". By pushing this button the player can choose the game options.

Game options

The first option offered to the player is to choose the game mode, which can be COMPETITION or PRACTICE.

In COMPETITION mode, the player can choose to be a boy (ZAKK) or a girl (JILL) in the virtual world of the game. Four models of QUAD are also available. The main rule for this mode is to pass the four phases in succession, beginning on phase 1.

In PRACTICE mode, the player can choose to start riding from any of the first three phases of the game. Once this selection is made, it is possible to choose boy or girl but not a QUAD, which is predetermined.

Turning the handlebar makes the selection of the different options. The player confirms the selection by pushing the START button or by a quick turn of the throttle grip.

Game rules

On COMPETITION mode, the player receives a card at the beginning of each phase. The card has 15 blank squares (5 squares per stage, 3 stages per phase). Each square will be filled with an "OK" if the player passes the corresponding stage. If not, the stamp will be "X". The rules of the game are simple: there are 5 checkpoints along one stage and the player has a fixed time to pass each checkpoint. If the player arrives on time, the corresponding square is filled with the "OK" stamp. If the player spends the available time before reaching the checkpoint, there is a penalty ("X" stamp). If the card is filled with three "X", the player is eliminated.

A new card is delivered when the player succeeds and goes onto the next phase.

There is a counter with a fixed amount of time. If the player does not reach a checkpoint on time, the seconds consumed are deducted on the counter until the available time is zero. This generates the "Time out" elimination.

The player wins when the four phases of the game are completed. The prize then is a nice show with fireworks.

On PRACTICE mode, the card is not filled with "X" so the player is not disqualified by accumulation of "X" but only for wasting time (Time out). The squares are filled with information about the dexterity of the player: "OK" means that he is doing well, "REG" means that he is doing so-so, and "BAD" means that he could perform much better. When the game is over, there is a global qualification that indicates if the player can try on COMPETITION mode or it is wiser to practice a little more.

Helping icons

There are two icons that appear along the course when the player is doing well. Those icons give special advantage to make extra jumps (JUMP) or to run faster during a short span of time (TURBO)

Scores

The score is represented by kilometers. A longer distance corresponds to a better player. To encourage the competition, there are some "hidden kilometers" that are added to the actual distance covered by the player. Those bonuses are always in the same place but not along the obvious path of the course, so the players have to search them and memorize the locations.

There are two types of record list: the "Top 20" parade, which keeps the absolute distances covered by the 20 best players, and a daily list with the longest distance covered on each stage. Those partial records of the daily list are erased when the machine is switched off at the end of the day.

7.1 COMPETITION ON LINK MODE

When two players compete directly, using two linked machines, the game rules are a bit different:

- The game starts and ends in a single phase only, to be selected by the players.
- The smarter player will take more "OK" on his card, while the other will accumulate "X".
- The game ends when the available time is consumed (TIME OUT). The program decides who wins and each player can read the appropriate message, either "YOU WIN" or "YOU LOOSE".

8. HOW TO LINK TWO MACHINES

ATV TRACK allows you to connect two machines so that two players can compete directly. To do this the following steps should be taken:

1. Make sure that the connection cable is correctly plugged into both machines.
2. Switch on both machines.
3. Press the TEST button on the CONTROL PANEL of both machines.
4. Go to the SETTINGS on both machines (See section 6.4 of this manual)
5. Go to Link options and define the condition of each machine, Master or Slave as indicated on the screen.
6. Go to the EXIT / CONTINUE screen, choose EXIT AND SAVE CHANGES option and validate with the START button.

If there is any problem, due to configuration error, bad communication or different program version, an error message will appear on the screen.

When you want to disconnect the two machines, you should unplug the link cable and proceed in the same way from step 2. On step 5 choose NOT LINKED for both machines, then exit from de Test Mode with the option EXIT AND SAVE CHANGES of the EXIT screen.

Warning! If the machines have different program version, please follow the proceeding described on Section 6.7.

9. TECHNICAL SERVICE

9.1 PRIOR CONSIDERATIONS

Technical service and maintenance must be carried out by qualified staff.

No modifications shall be made to the machine unless these have been approved by the manufacturer in writing. Failure to observe this requirement may cause damage or accidents and will automatically render the guarantee null and void.

If any task needs to be performed which is not described in this manual, please contact the distributor for instructions. The manufacturer declines any liability for damage and injury arising from failure to comply with this requirement

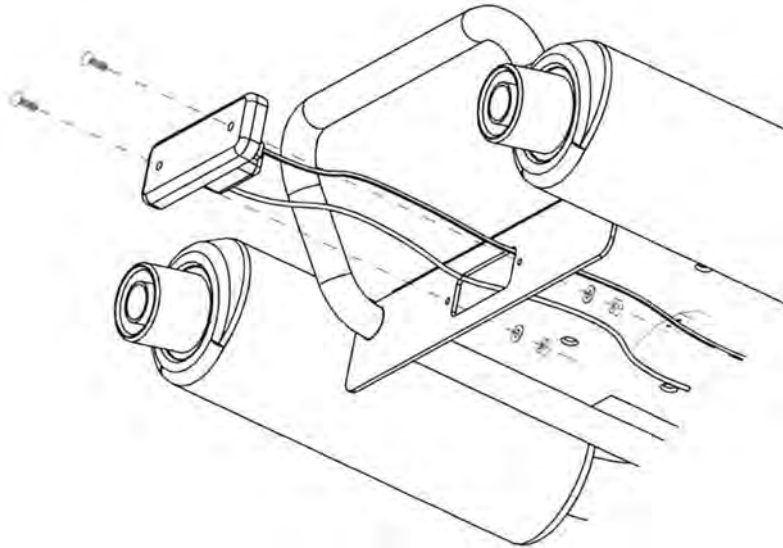
9.2 SAFETY PRECAUTIONS



- Before commencing work on the machine, maintenance staff must read this manual carefully and check that all of the safety norms concerning the installation and use of the ATV-TRACK. Maintenance staff must advise the operator of any irregularities they observe so that the latter can take the appropriate measures to put matters right.
- The machine must be disconnected from the power supply before beginning any kind of maintenance work (changing parts, repairs, etc.), except where this is confined to a simple check on whether the machine is working properly. Hold the plug when unplugging the machine - DO NOT PULL ON THE CABLE !
- Parts of the power supply unit (PSU) and the monitor remain hot or store high voltage even when the machine has been unplugged. Do not touch these parts as electric shock or burns may result.
- Make sure there is plenty of room for maintenance to be carried out. At least 3 metres should be left free between the machine itself and other objects (e.g. adjacent machines, walls, etc.).
- When parts need replacing, use only those approved by Gaelco S.A. and which meet the relevant specifications.

9.3 BRAKE LIGHT

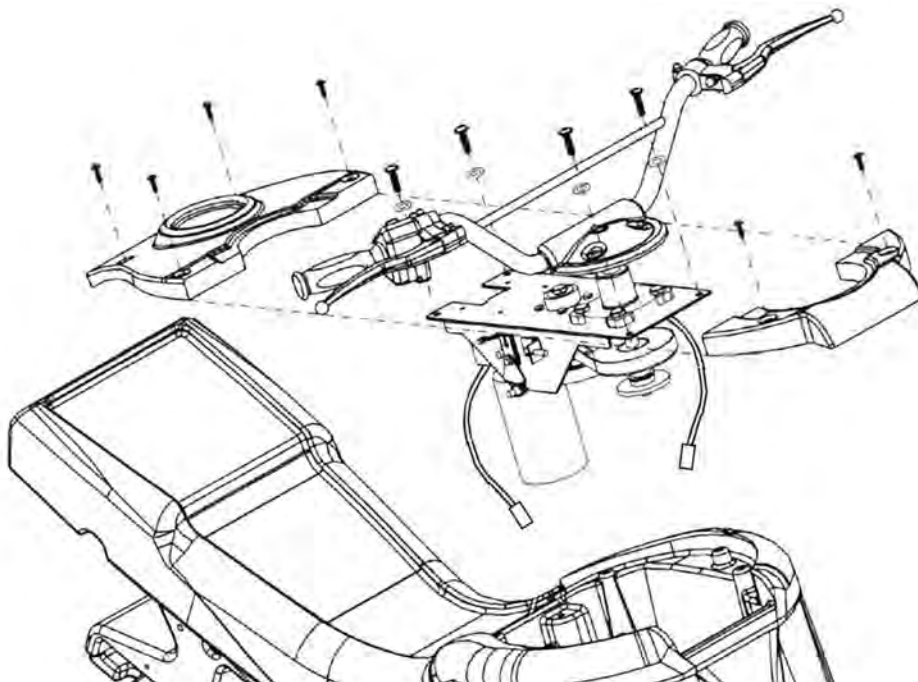
When the brake light needs replacing, remove the plastic cover as shown in the diagram. Unplug the connectors before pulling.



Bulb: 24V/5W

9.4 HANDLEBAR MECHANISM

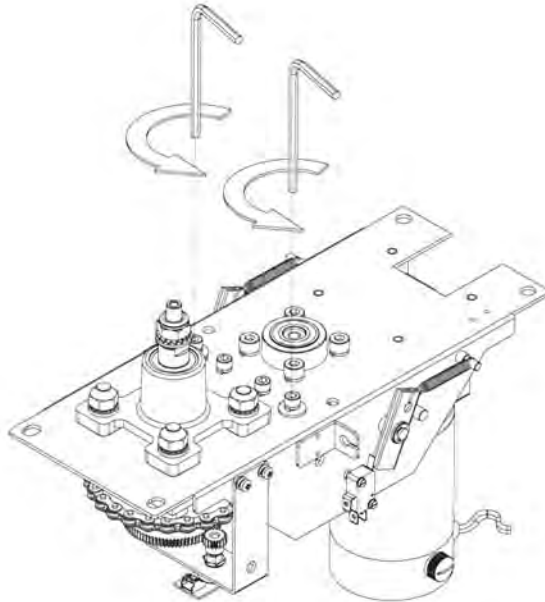
Access the handlebar mechanism by removing the screws which hold the two plastic covering pieces. To remove the mechanism, remove the screws which hold it to the ATV chassis, ensuring the two cables are disconnected before lifting out the assembly.



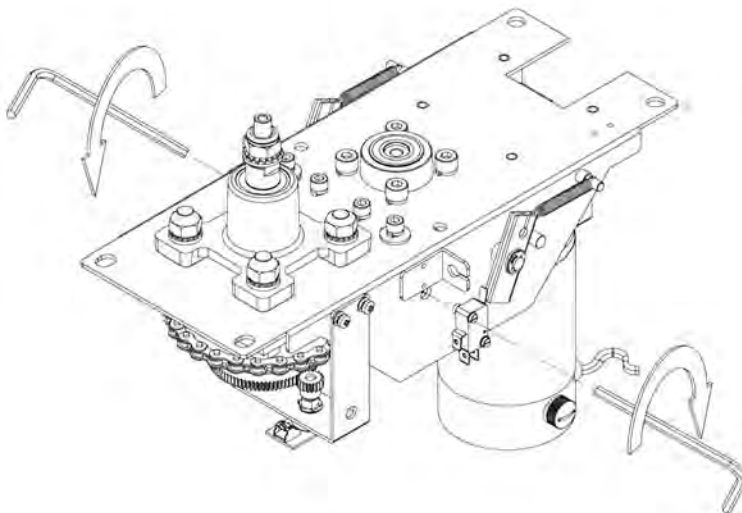
9.4.1 ADJUSTING THE CHAIN TENSION

Adjust the chain tension as follows:

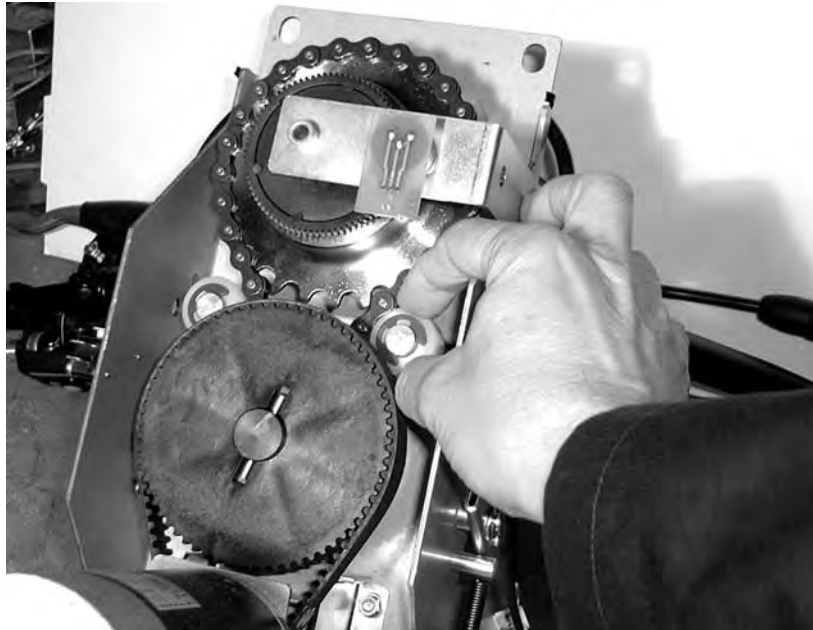
- 1) Loosen the screws holding the tensing roller shafts (as shown in the drawing). Half a turn is enough.



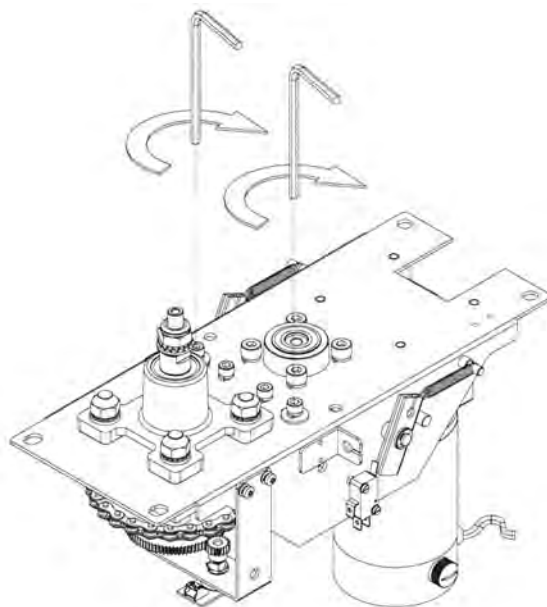
- 2) Then, adjust the chain tension by tightening the side screws. To check whether the chain is properly tensed: the nylon rollers should press tightly enough against the chain to be difficult to turn by hand but still sufficiently loose to be able to turn despite the friction. **Bear in mind that when the top screws are tightened, the rollers will close and press even more tightly against the chain. This may make the handlebar too hard to turn.**



Checking the rollers



3) Tighten the top screws and re-check the **pressure of the rollers against the chain**. If they cannot be turned by hand, they are pressing too hard against the chain. If this is the case, repeat the process again, this time loosening the side screws a little. Once again, tighten the top screws and check the pressure by turning the rollers by hand. Repeat the process as many times as is required until the criteria set out in Step 2 are met.



9.4.2 CHANGING THE BRAKE CABLES

To change the brake cable, proceed as follows:

- 1) To work more easily, disassemble the handlebar following the procedure described in the first paragraph of this chapter (page 37)
- 2) Remove the protective rubber covers from the brake levers.
- 3) Pull on the cable sleeve and remove the brake lever cable, as shown in the diagrams on this page.

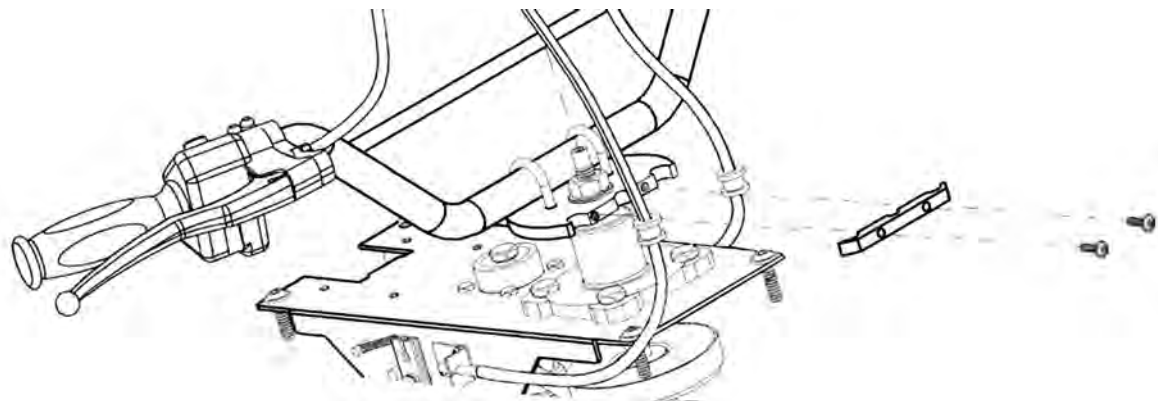


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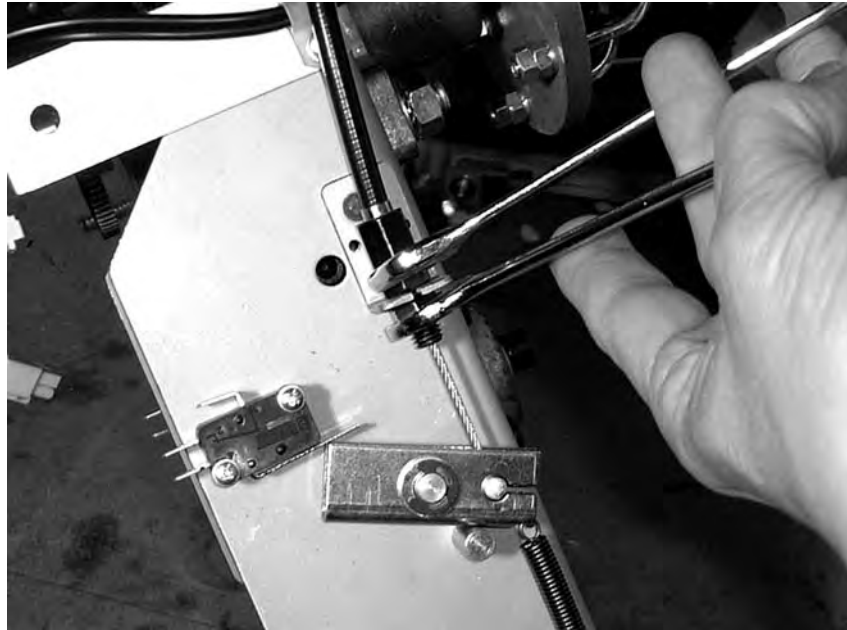
4) Remove the screw which holds the plastic cupola to the steering assembly shaft. Then lift the cupola, as shown in the diagram. This reveals the support area to which the cables are held.



5) Open the special clamp holding the cables



6) Loosen the nuts which hold the damaged brake cable with the help of the two 12mm spans, releasing the cable lever which operates the micro-switch.



7) The cables can then be lifted out of their plastic cupola by pulling them upwards.

8) Fit the new cable by following the reverse procedure, beginning by threading the cable into the cupola from the top. Adjust the largest diameter cable holder in the cupola and then follow the steps below:

- Fit the end of the cable in the lever housing.
- Fit the tensor.
- Fit the other end of the cable to the brake lever. Bear in mind that the cables from the cupola cross over to the opposite handlebar.
- Close the special clamp over the cable, whilst holding the cable holder.
- Fit the cupola.
- Adjust the tensor.
- Fit the control in the chassis, remembering to connect the cables.
- Adjust the sleeve so that it does not rub against either the screws on the bearing box or against the screws which hold the control assembly onto the chassis.
- Fit the rubber sleeves back on the levers.
- Fit the plastic covers back on steering assembly.
- Ensure that both the brakes and the steering assembly are working properly by checking the INPUT / OUTPUT screen in Test Mode.

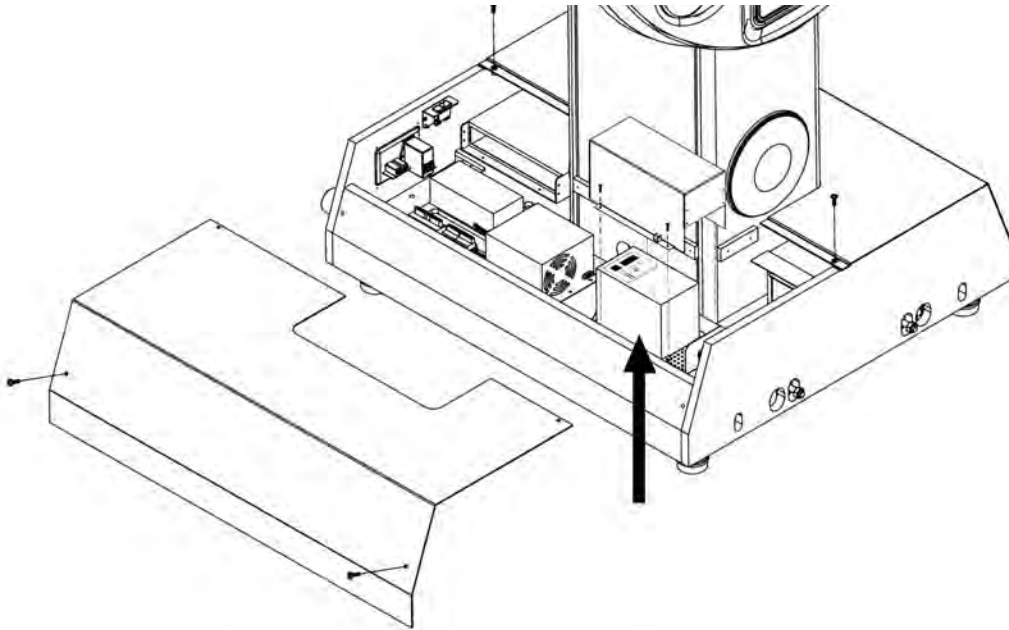
9.4.3 CHANGING THE BRAKE MICRO-SWITCH

If the micro-switch needs changing, ensure that the cables are connected to the square terminal and that it is a contact which is NORMALLY CLOSED (NC). This terminal is the one closest to the square terminal.



9.5 EMERGENCY AND SAFETY STOPS

The movement system includes two stop devices - an emergency one and a safety one. The emergency stop is operated by a red knob on top of the fuel tank. The safety stop operates when the player ceases pressing on either of the bike foot rests. The emergency and safety circuit-breakers are connected in series so that either of them will bring the bike to a standstill. The last section of Chapter 3 provides details concerning their use. Should the movement system not work, the cause may lie in: either of the stop switches ; in the cables ; or on the CPU board. The following steps must be taken before finding the fault:

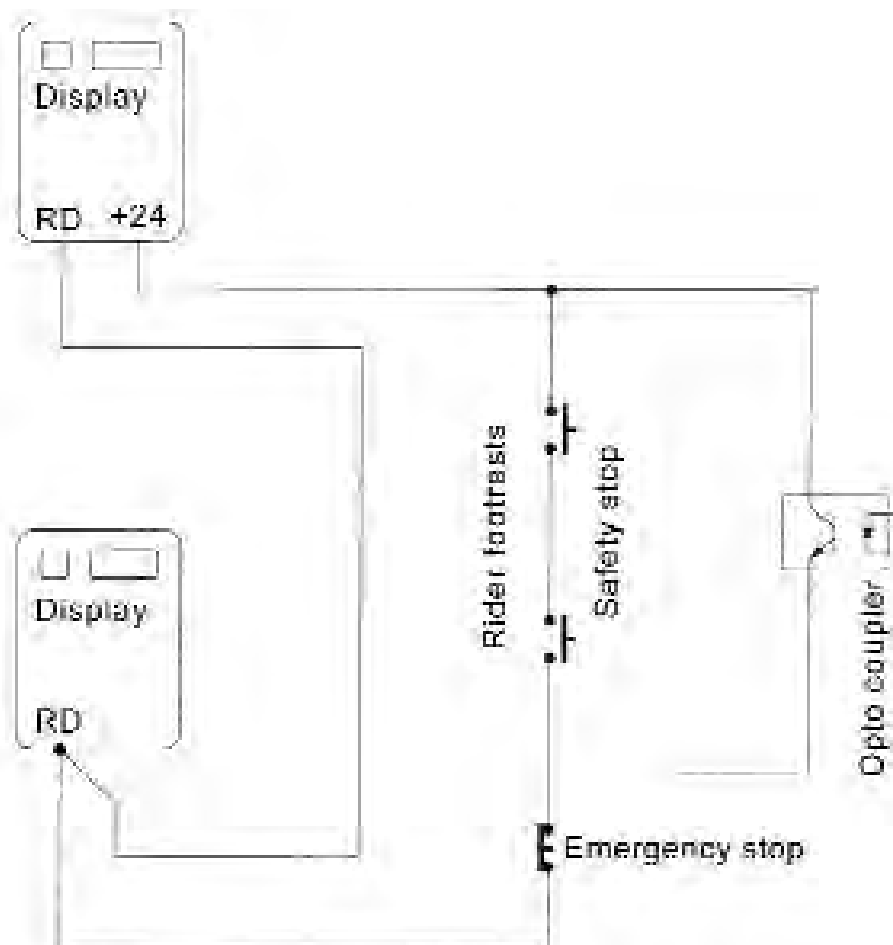


1. Remove the metal covers which cover the base of the monitor, as shown in the diagram.
2. Remove the Faraday cages which cover each of the motor drivers. This reveals the LED screens which provide information on the state of each driver.

9.5.1 EMERGENCY STOP CIRCUIT

To check the emergency stop circuit, check the CPU IN /OUT screen in Test Mode and SELECT THE LINE "Emergency Stop" : if the red knob is in the rest position (circuit closed, movement possible), the message will read ON. When the red knob is pressed, the message will change to OFF (circuit open, motors stopped). When the knob is turned clockwise, the movement system is ready to operate. The message turns back to ON (movement system ready).

However: the previous check only covers the signal processed by the CPU but the problem could lie in a circuit which goes directly to the drivers. To check whether this is the case, select the Movement Test from the MOVEMENT SYSTEM screen while in Test Mode. Refer to the circuit diagram in following the steps below:



When the Movement Test option is selected, the optocoupler breaks the circuits of the footrest micro-switches (see right-hand side of illustration).

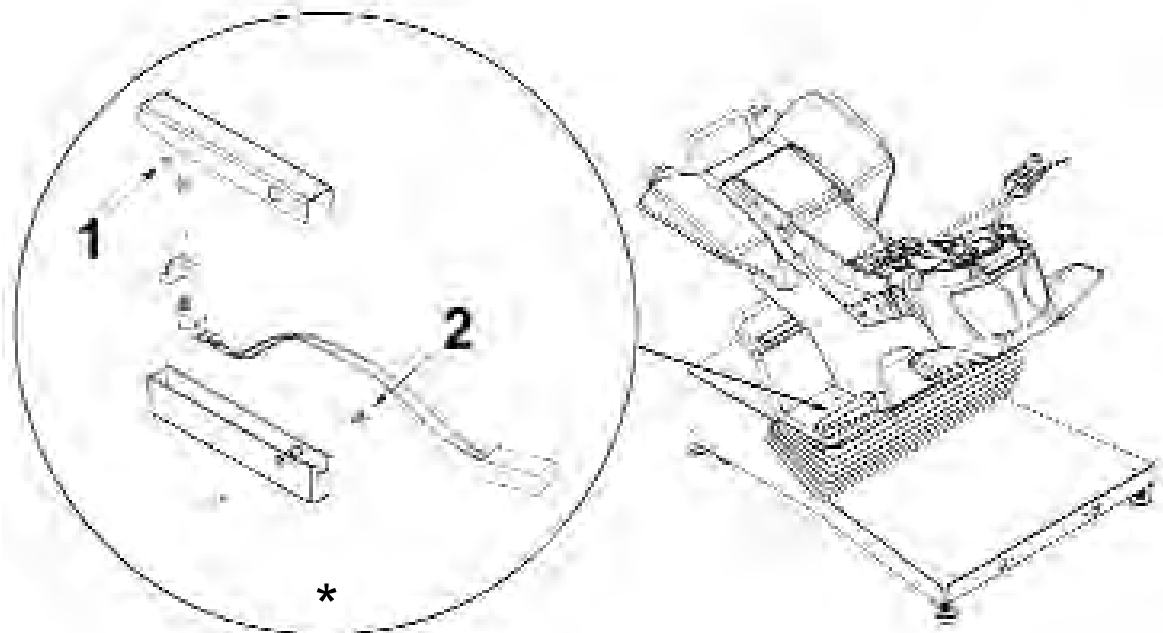
Under normal conditions, when the button is in the rest position (i.e. not pressed), the message " rd " will appear in the left-hand window of both drivers. However, if the message is " ih ", this indicates that the circuit remains open for some reason (e.g. bad connection, damaged cable, faulty button, etc.). The stop message will appear on the monitor screen, consisting of an image of the stop knob and an acoustic warning.

The most likely fault is a short-circuit if the message of the drivers is neither " rd " nor " ih " and there is no stop message on the monitor.

9.5.2 SAFETY STOP CIRCUIT

Para verificar el estado de este circuito se entra en la pantalla ENTRADAS / SALIDAS To check the safety stop circuit, go to the CPU IN /OUT screen in Test Mode and keep the emergency button in the rest position (ON). When pressure is released from either of the drivers, the message on both controls should be " ih ". If this is not so, the technician can deduce the problem by following the circuit diagram.

To change a switch, the top part of the corresponding footrest needs to be taken off by removing the screw marked " 2 " on the diagram. Item 1 is the nut which secures the switch bracket.

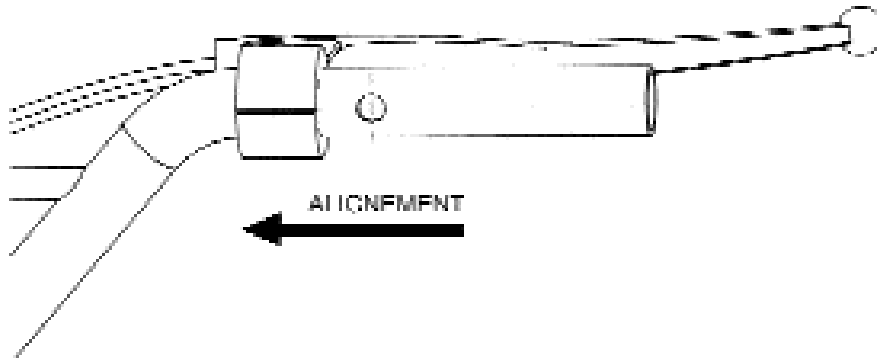


*To see the footrest in detail, please refer to section 10.20 of this Manual.

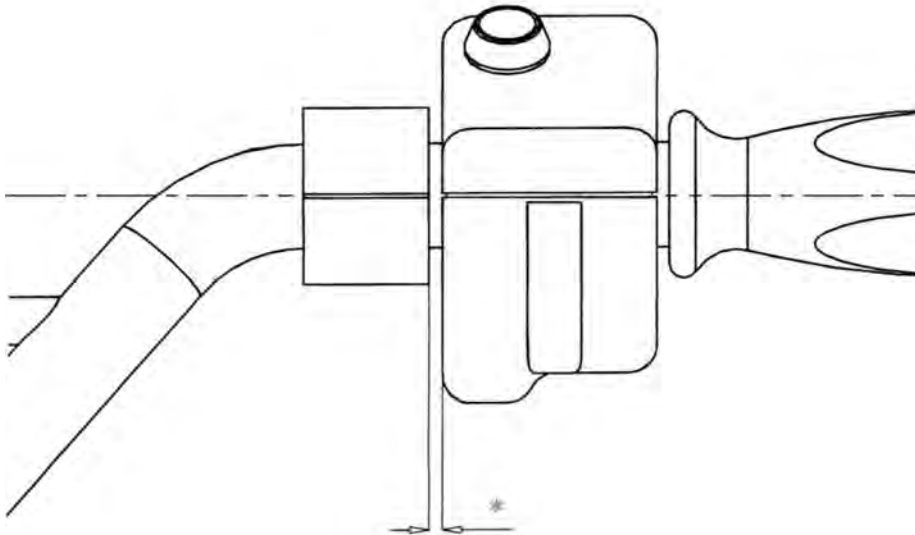
9.6 POSITION OF THE BRAKE LEVERS AND THE THROTTLE

The brake levers must be assembled so that they abut the curve of the handlebar and are positioned as far as possible from the ends of the handlebar.

The right hand brake lever provides the reference point. The brake bracket aligns with a hole through which the potentiometer, accelerator, and start button cables go. As will be seen in the line drawing, the moulding line on the bracket lines up with the longitudinal centre of the hole.



The left-hand brake lever is assembled in the same plane as the right-hand lever. The throttle is assembled so that the union between the two covers lines up with the moulding line of the lever bracket, as shown in the line drawing.



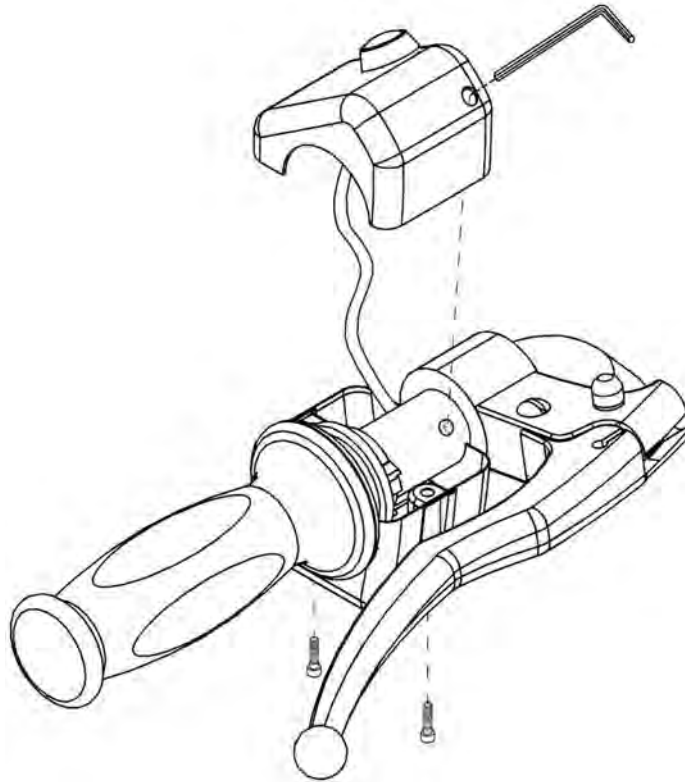
The separation between the mechanism housing and the brake lever bracket (*) is some 4-5mm. The inside of the throttle lever must not rub against the end of the tube - if it does it will not turn freely.

The left grip is separated from the lever body by some 35mm.

9.7 DISASSEMBLING AND ASSEMBLING THE THROTTLE

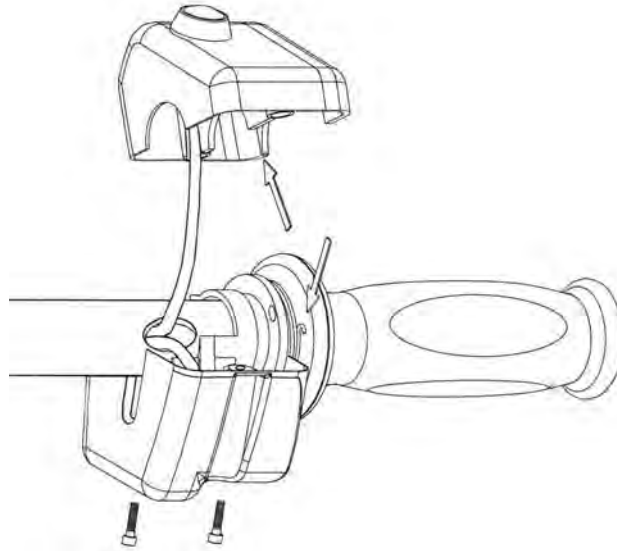
Follow the procedure below when disassembling the throttle (e.g. when checking the potentiometer, etc.):

1) The first step is to loosen the grub screw on the top cover (see line drawing). There is a seating for the grub screw in the handlebar tube. The seating stops the whole assembly turning when force is used to work the throttle.



2) Remove the two screws holding the covers to the tube. The lower cover comes away easily whereas the upper cover tends to remain stuck to the throttle recovery mechanism. To remove the top throttle cover, turn the throttle anti-clockwise while holding the cover with the other hand. When the cover is freed from the throttle, it will hang from the start button cable.

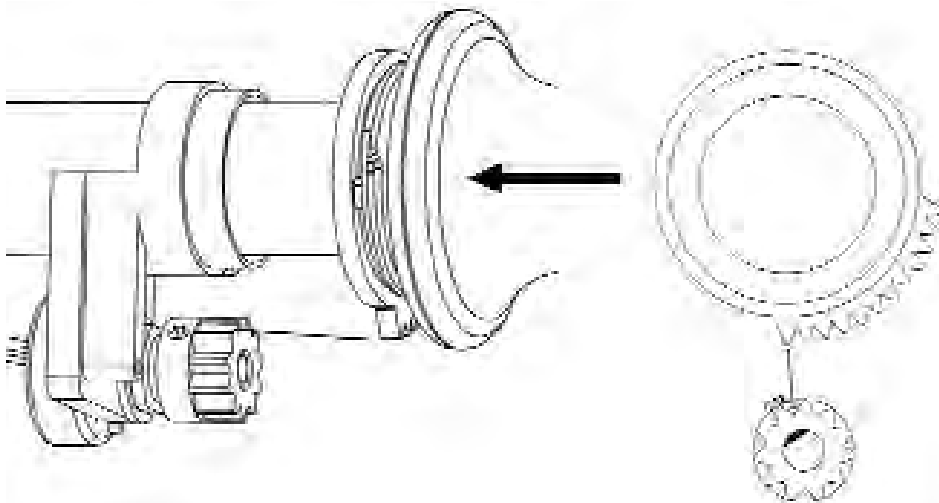
3) To replace the covers and the throttle, simply follow the reverse procedure: first, attach the bracket in the seating for the upper cover (see illustration), then tighten up the screws which hold both covers in place (the assembly can still be turned at this juncture), finally find the position (see Section 9.6) in which the grub screw seats back into the tube.



To check the assembly is steady, grab the two covers and try turning the assembly first one way and then the other. If the control has been properly assembled, it will not turn.

9.8 ADJUSTING THE ACCELERATION POTENTIOMETER

In assembling the throttle, it is very important to observe the following point: The first tooth of the pinion wheel (as shown in the line drawing) must fit the first indent to the right of the tooth aligned with the grub screw holding the pinion wheel. The grub screw presses against the flat part of the potentiometer shaft. This determines the exact alignment between the two items.



NOTE: The right-hand illustration gives an imaginary view of the alignment point mentioned above (indicated with an arrow). In reality, the rubber throttle cover prevents one from seeing the assembly.

To check the potentiometer, check the **Accelerator** option from the **INPUT /OUTPUT** screen and check the values are as follows:

1) Throttle (right forward)

Reading 00(006) The figure in brackets may vary between 001 and 006.

2) Full Throttle (maximum acceleration)

Reading 01(230) The figure in brackets may vary between 220 and 230.

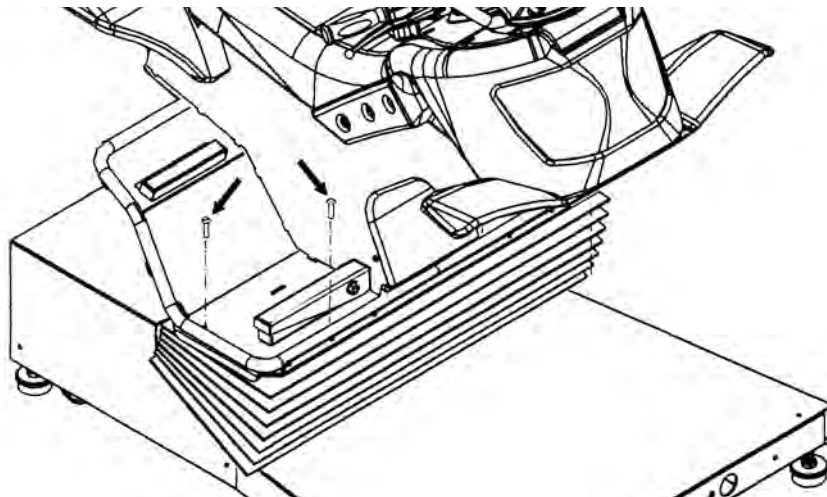
If the readings are outside these values in the respective throttle positions, it indicates that the potentiometer pinion is wrongly positioned with respect to the throttle.

9.9 PARTIAL DISASSEMBLY OF THE PROTECTION HOOD

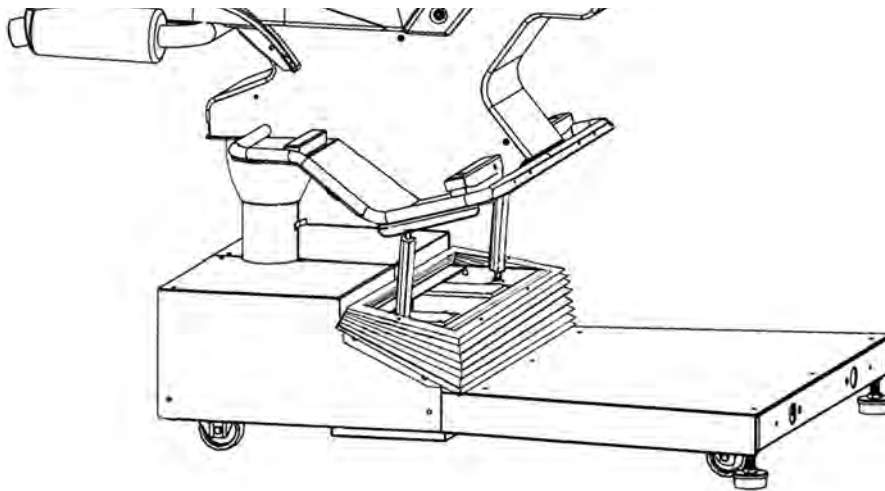
Proceed as follows when accessing areas protected by the hood:

1) Enter the MOVEMENT SYSTEM screen in Test Mode, with the brake levers in their highest position on the mobile platform (corresponding to figure 0.50 for both motors). For further details, consult Section 6.3 of this manual. The relevant figure is shown on the right in brackets.

2) Remove the four screws which hold the top of the hood to the mobile platform. The line drawing only shows the screws on one side.



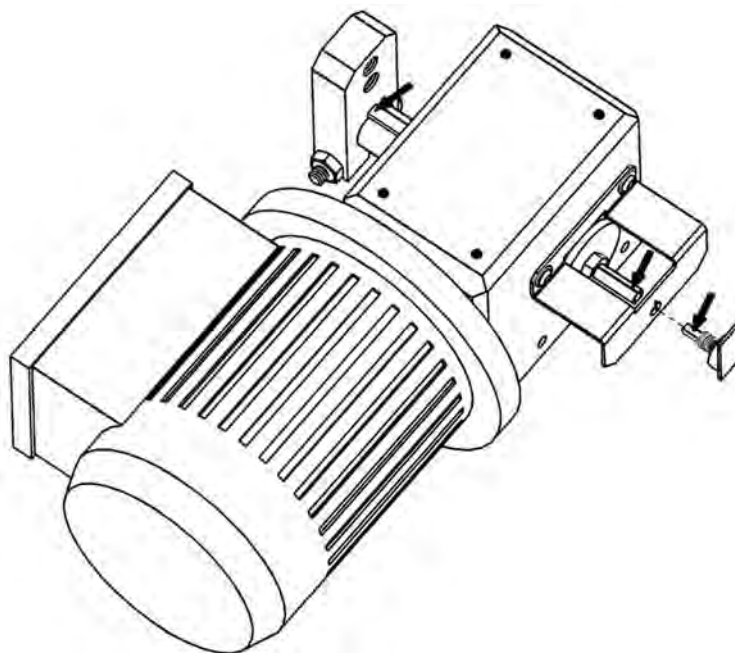
3) Push the hood upward (i.e. towards the upper part of the column). This frees a metal catch located beneath the mobile platform, allowing the hood to be folded down flat.



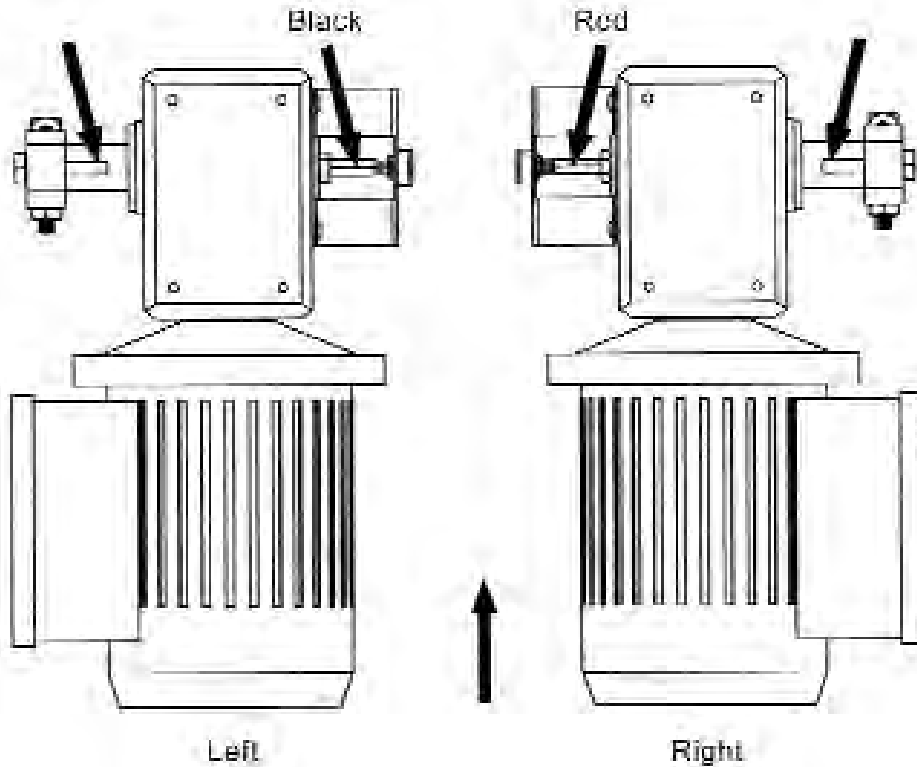
9.10 CHECKING POSITION POTENTIOMETERS

If the movement system is not working properly, the position potentiometer (ATV-305) should be checked and changed if necessary. The following points need to be borne in mind in this connection:

1) When the shaft lever is completely upright (as shown in the illustration), the woodruff key will also be in the upright position. Read the brake position on the MOVEMENT SYSTEM screen while in Test Mode. When the position is reached, check that the line marked on the silicon tube lines up with the motor woodruff key. The mark on the silicon tube lines up with the woodruff key on the motor shaft. The mark lines up with the centre of the flat part of the potentiometer shaft.

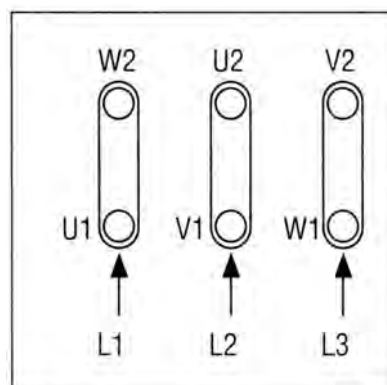


2) Viewing the motors from above, when the shafts are in the position indicated, check that the left shaft woodruff key is lined up with the black line on the silicon tube and that the right shaft woodruff key is lined up with the red line on the tube. To see which motor is left and which is right, look at them from the direction shown by the arrow at the bottom centre of the illustration.



9.11 ASYNCHRONOUS MOTORS - CIRCUIT DIAGRAM

The motors operating the movement system are three phase ones. In the ATV-TRACK application, they are connected in triangular fashion (see diagram).



L1, L2 and L3 are cables from the Commander SE frequency converters.

9.12 CHECKING THE COMMANDER SE PARAMETERS

Frequency converter model: COMMANDER SE

Starting position: Machine connected, movement system off.

The two digit screen shows the parameter number.

The three digit screen shows the parameter programming.

Begin check:

- 1) Press button M on the speed control.
- 2) Press the arrows to select the parameter.
- 3) Check the parameter value matches the one shown on the list below:

Nr.	Value
1	0.0
2	50
3	0.5
4	0.5
5	A1.PR
6	4.30
7	1500
8	230
9	0.85
10	L2
11	0.0
12	0.0
13	0.0
14	0.0
15	1.5
16	4-.20
17	OFF
18	--
19	--
20	--
21	--
22	A

Nr.	Value
23	SP
24	1.00
25	0
26	ON
27	0
28	NO
29	NO
30	1
31	1
32	OFF
33	0
34	ON
35	2
36	Fr
37	6
38	0
39	50.0
40	Auto
41	AnSi
42	4.8
43	1.1
44	--

If the programming is wrong, contact the manufacturer.

The error codes can be checked by consulting the short manual for the speed controls, supplied with the machine.

9.13 TROUBLESHOOTING PROCEDURES

1) PROBLEM: The machine does not start when the mains switch is thrown.

CHECKS

- Check the mains cable and its connections.
 - Check the fuses. Check the specifications are met. Check whether the fuses have blown and that they have the correct current rating. The fault may have been caused by an overload current.
 - Check the CPU connections
 - Check there is +5V AC in the power supply.
-

2) PROBLEM: There is something wrong with the screen colours and/or image.

CHECKS

- Enter in Test Mode and adjust the monitor settings with the help of the screen test (see Section 6.1)
-

3) PROBLEM: The game starts but the platform fails to move.

CHECKS

- Check that the rider is pressing down correctly on both footrests.
 - Check the emergency stop button is not pressed.
 - Check the movement system by looking at the corresponding screen whilst in Test Mode (see Section 6.3): if the platform moves, the problem lies in one of the footrests. In this case, apply the procedure described in Section 9.5.2. If the game platform still fails to move, carry out the following checks:
 - Check that the connections between the monitor casing and the game platform are not loose and that the cables are undamaged.
 - Check that the frequency converters work properly (i.e. no error message (see Sections 9.5.1 and 9.12)).
 - Check the DC driver (ATV-358): If the fuses have blown, it is likely that the power transistors have short-circuited.
-

4) PROBLEM: The game platform moves but not in synchronism with the ATV image on the monitor.

CHECKS

- Enter the MOTION SYSTEM screen in Test Mode and check that the platform is at its highest point when taking the reading position of both motors. The reading should be 0.50. If this is not the case or the platform leans to one side, check the position potentiometer following the procedure described in Section 9.10.
- Check that the screws (ATV-829) are properly tightened on their respective shafts.
- Check that the plastic coupling (ATV-819) is not twisted and that it does not slip on the sleeve which stands proud of the head of the centring screw (ATV-829).

5) PROBLEM: The game platform moves very slowly the whole time.

CHECKS

- Check the potentiometers are working properly and that none of the cables have broken.
-

6) PROBLEM: The throttle does not work.

CHECKS

- Enter the INPUT/OUTPUT screen in Test Mode. Check that the throttle meets the conditions set out in Section 9.8.
 - If the reading does not change on twisting the throttle grip, check the state of the cable from the throttle to the connector housed in the steering assembly. Lift the handlebar cupola, following steps 1,2,3 and 4 described in Section 9.4.2 and check potentiometer circuit continuity by measuring the electrical resistance between the connector pins at the point where three cables meet.
 - If there are any discontinuous or false readings, open the throttle control following the procedure described in Section 9.7 and check there are no broken cables.
 - If all the cables running to the potentiometer are in good condition, check the potentiometer resistance by measuring the electrical resistance on the terminals.
 - Follow the instructions in Sections 9.8 and 9.7 to reassemble the throttle.
-

7) PROBLEM: The START button does not work

CHECKS

- Follow the same procedure as in case 6, checking first the current continuity on the connector pins housed in the steering assembly (location at the point where two cables meet).
 - If the circuit is faulty, open the throttle control assembly following the procedure described in Section 9.7.
 - Follow the instructions in Sections 9.8 and 9.7 to reassemble the throttle.
-

8) PROBLEM: The ATV accelerates in a jerky manner and may even brake when it should go faster.

CHECKS

- Open the throttle, following the procedure described in Section 9.7.
- Check that the throttle travel stop (limiting top speed) is not broken. Do this by holding the potentiometer bracket and twisting the throttle, forcing it a little at the end of its travel.
- Check the linkage between the potentiometer wheel and the throttle meet the conditions set out in Section 9.8.
- Follow the instructions in Sections 9.8 and 9.7 to reassemble the throttle.

9) PROBLEM:The machines do not work when they are linked up.

CHECKS

- Check that the link cable properly connects the two machines.
- Follow the instructions in Section 8. The error message descriptions are set out in Section 6.4 (Link Mode).

10) PROBLEM: There is no sound or it is of poor quality.

CHECKS

- Change the volume on the Control Panel.
- Carry out a sound test (see Section 6.5)
- Check the connections.

11) PROBLEM: The fluorescent tube fails to light

CHECKS

- Check the fluorescent tube by removing the mounting plate (ATV-517). To do this, remove the four screws (ATV-959) show in the illustration in Section 10.5. Use a step ladder or other firm support when doing so. For safety reasons, it is strictly forbidden to clamber over the monitor casing.

NOTES

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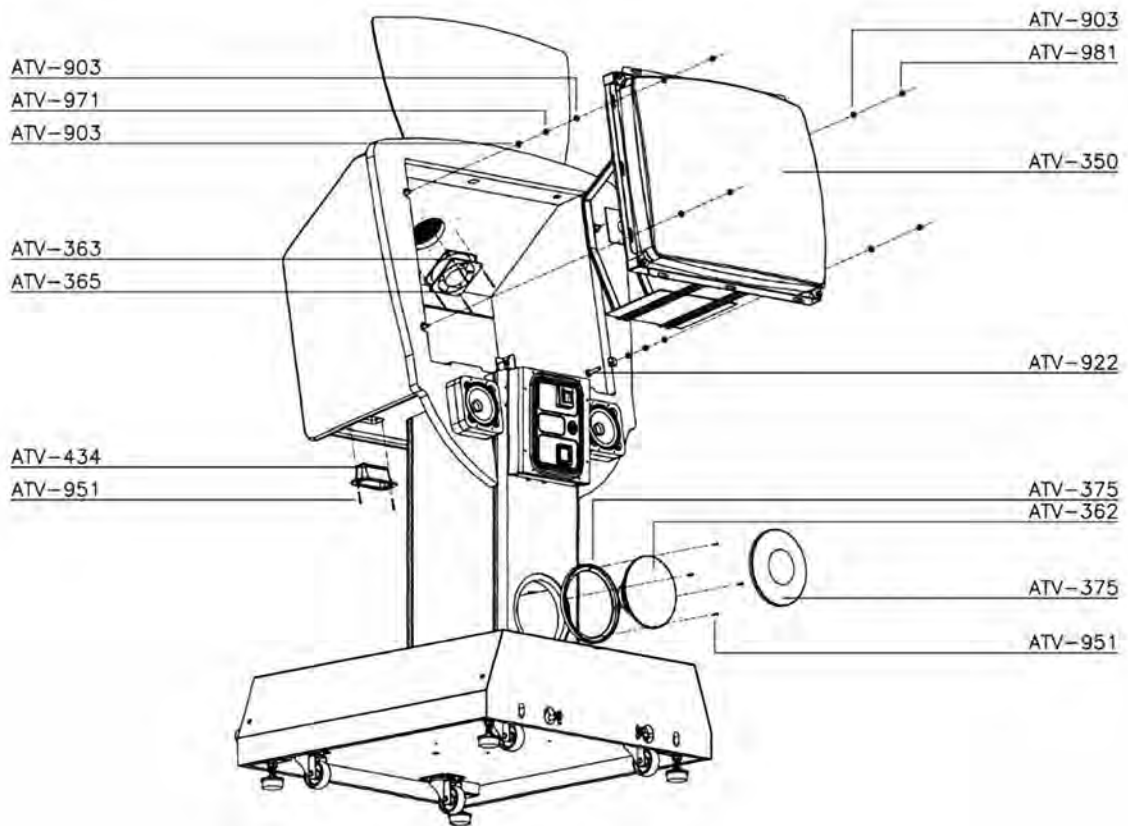
Gaelco - ATV Quads Track

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10. PARTS LIST

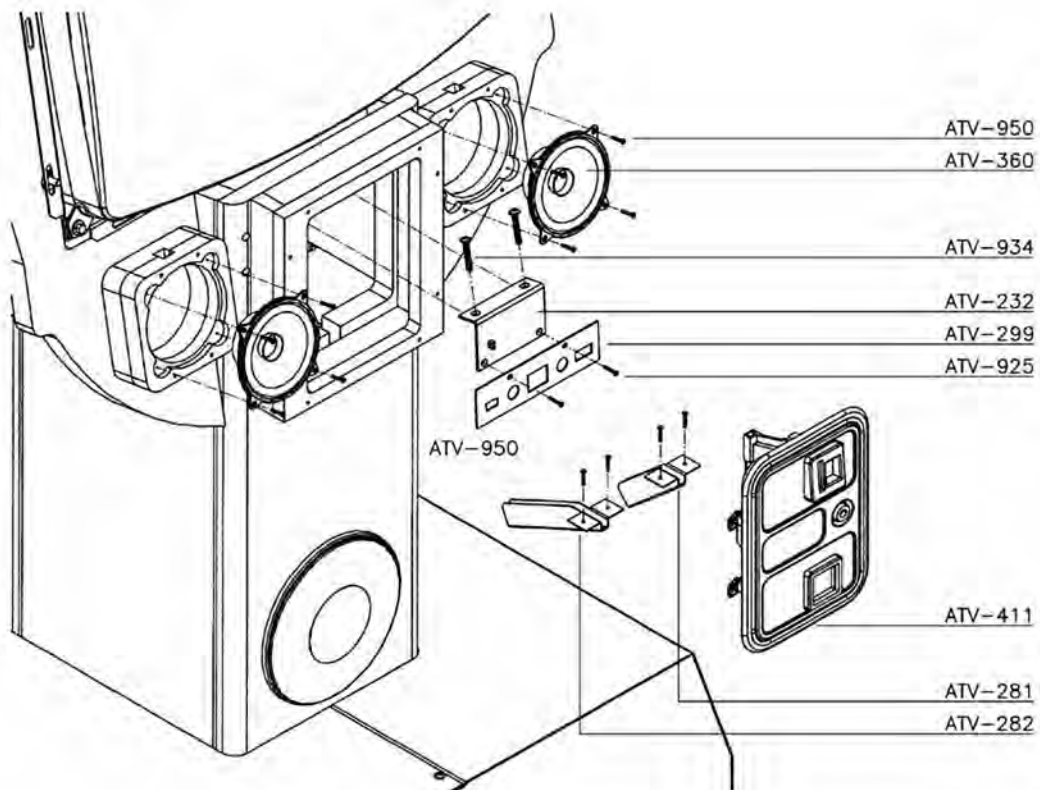
10.1 MONITOR CABINET – MONITOR, SUBWOOFER & ACCESSORIES

CODE	DESCRIPTION
ATV-350	MONITOR Polo/2, 34", STAR PH – CODE 02197790, SVGA cable 600mm
ATV-362	8" SUBWOOFER 100W/4Ω
ATV-363	FAN 220V 120X120X38
ATV-365	FAN GRILL
ATV-375	8" GRILL, subwoofer
ATV-434	PLASTIC HANDLE C36055007
ATV-903	WASHER DIN125 M8, monitor
ATV-922	SCREW DIN603 M8X45, monitor
ATV-950	SCREW DIN7505-B 4X14, plastic handle & subwoofer
ATV-971	NUT DIN934 M8, monitor
ATV-981	NUT DIN985 M8, monitor



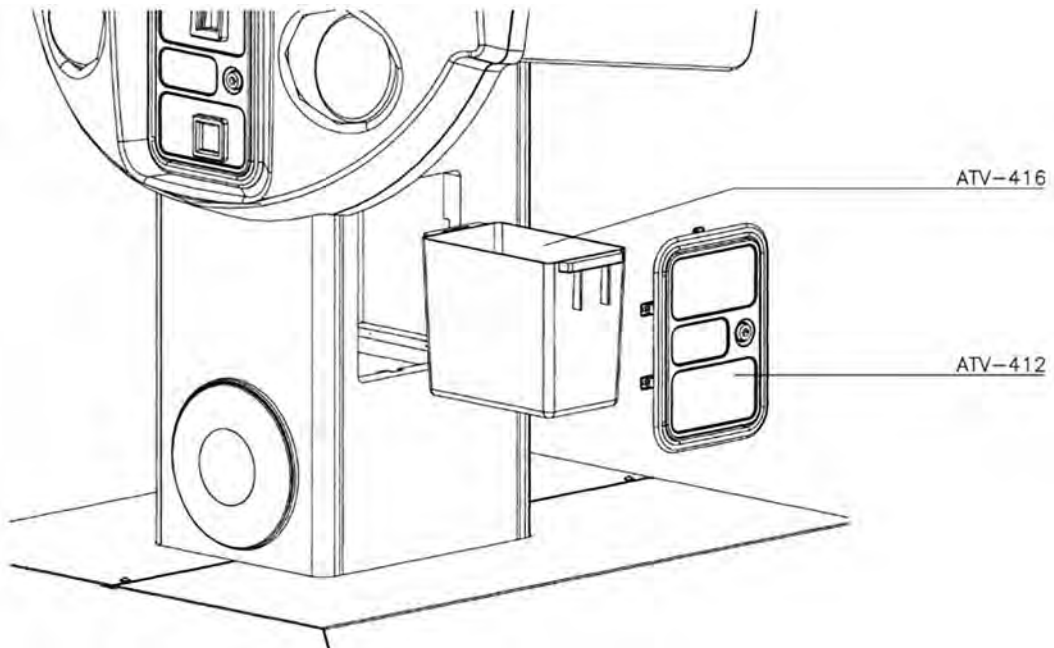
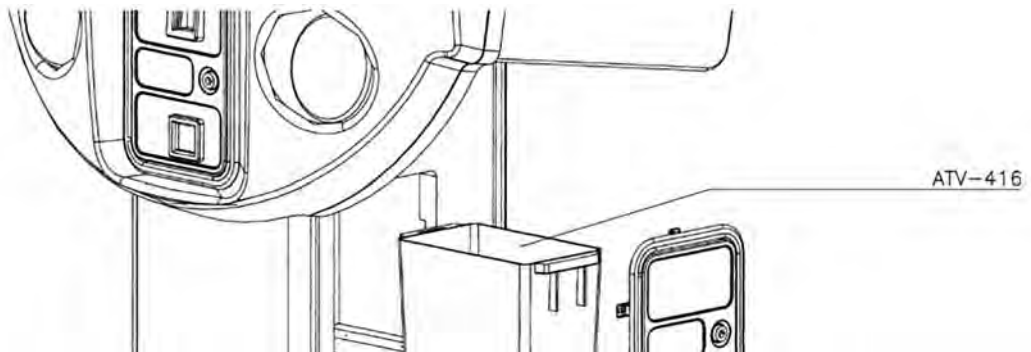
10.2 MONITOR CABINET – COIN DOOR & SPEAKERS

CODE	DESCRIPTION
ATV-232	BRACKET, Test & Service Panel
ATV-281	COIN ACCEPTOR RAIL – Type 1
ATV-282	COIN ACCEPTOR RAIL – Type 2
ATV-299	TEST & SERVICE PANEL
ATV-360	5" SHIELDED LOUDSPEAKER, 60W / 4Ω / 2VIAS – CODE 35.1368
ATV-411	MINI DOOR, 1 ENTRY – CODE P1001707520S2000
ATV-925	SCREW DIN 7985, M4X10, zinc plated
ATV-934	SCREW DIN 912, M6X40
ATV-950	SCREW DIN 7505-B, 4X13



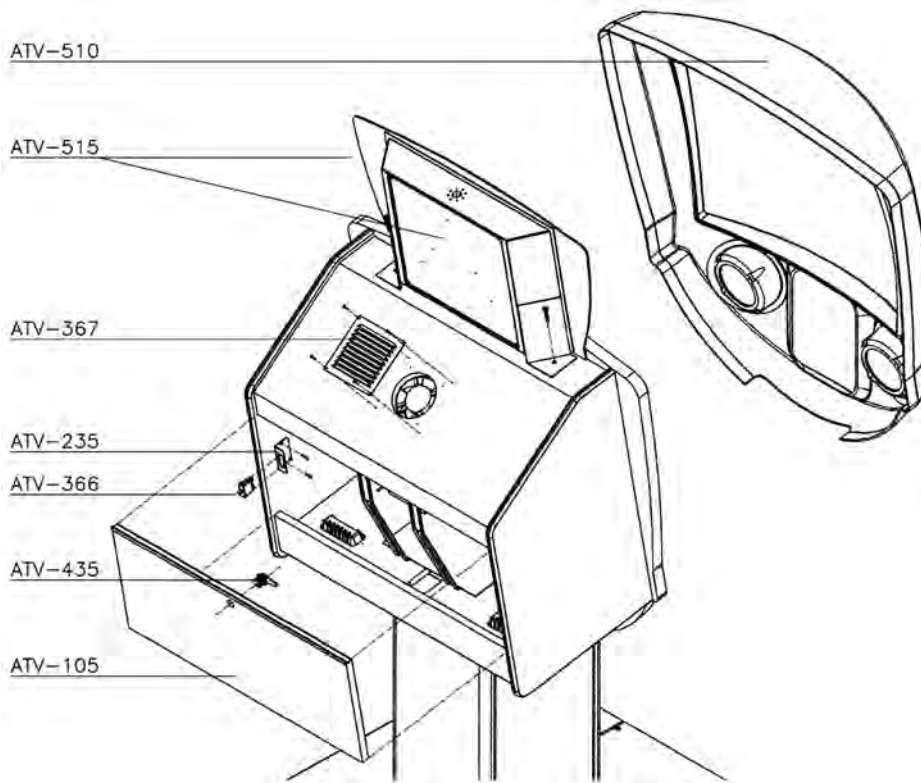
10.3 MONITOR CABINET – SERVICE PANEL & CASH BOX

CODE	DESCRIPTION
ATV-395	VOLUME SWITCH
ATV-396	TEST/SERVICE PUSH BUTTON
ATV-399	COUNTER, 6VDC
ATV-412	MINIBLANK DOOR COB – CODE P10000073000000
ATV-416	PLASTIC CASH BOX - STANDARD
ATV-950	SCREW DIN 7505-B 4X13



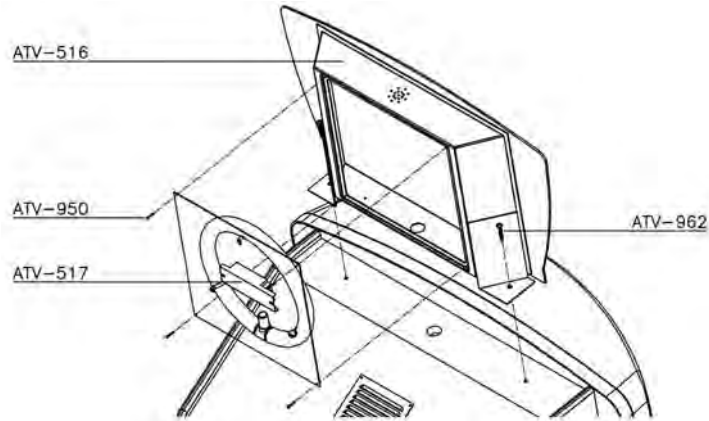
10.4 MONITOR CABINET – PLASTICS AND ACCESSORIES

CODE	DESCRIPTION
ATV-105	MONITOR REAR DOOR
ATV-235	SAFETY SWITCH BRACKET
ATV-366	SAFETY SWITCH
ATV-367	VENTILATION GRILL
ATV-435	DOOR LOCK, REF. AGA 135
ATV-510	FRONT PLASTIC
ATV-515	BILLBOARD ASSEMBLY



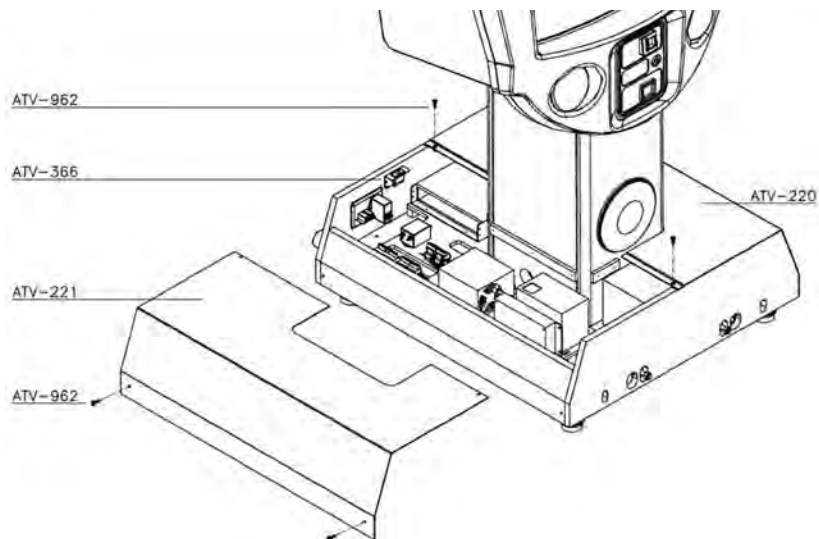
10.5 MONITOR CABINET – BILLBOARD ASSEMBLY (ATV-515)

CODE	DESCRIPTION
ATV-516	BILLBOARD
ATV-517	FLUORESCENT ASSEMBLY
ATV-950	SCREW DIN 7505-B 4X10
ATV-962	SCREW UM1001 M6X20



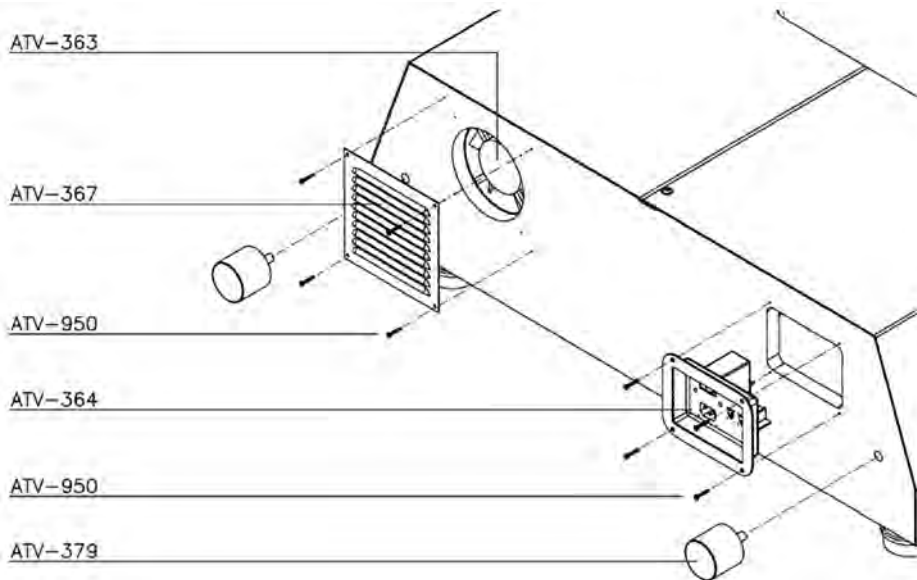
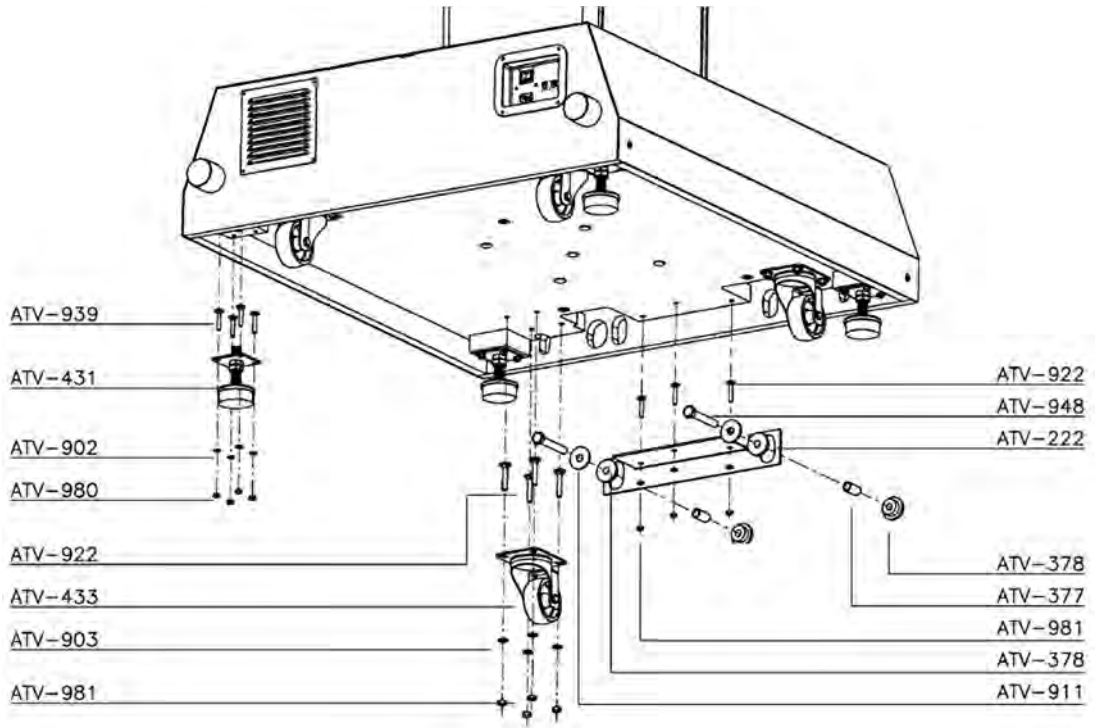
10.6 MONITOR CABINET – BASE COVERS

CODE	DESCRIPTION
ATV-220	METALLIC COVER – RIGHT
ATV-221	METALLIC COVER – LEFT
ATV-366	SAFETY SWITCH 701BIP
ATV-501	
ATV-962	SCREW UM1001 M6X20, black



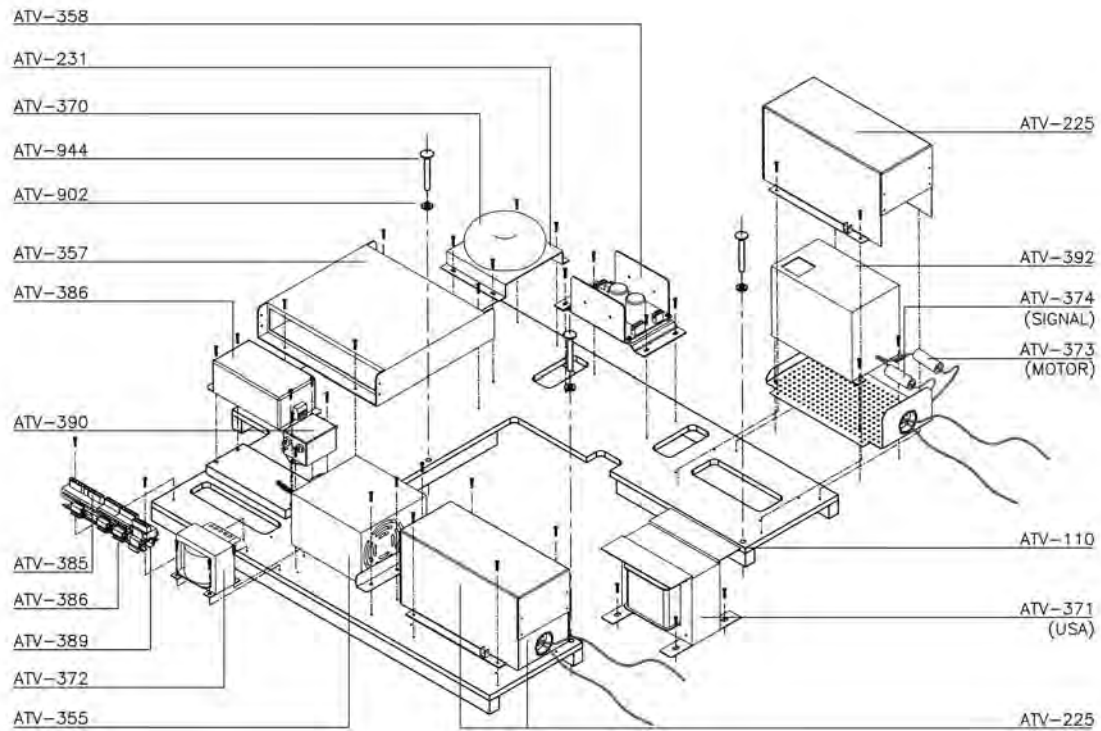
10.7 MONITOR CABINET – BASE PARTS

CODE	DESCRIPTION
ATV-222	UNION BRACKET
ATV-363	FAN 220VAC, 120X120X38
ATV-364	MAINS SWITCH & FUSE HOLDER (2X10A) – CODE 2752RS
ATV-367	VENTILATION GRILL 15X15
ATV-377	SLEEVE Ø16XØ12X32, rubber spacer
ATV-378	RUBBER SPACER, T-SHAPE, Ø40XØ28X15 – hole Ø16
ATV-379	RUBBER STOPPER Ø50X45 / M10X25
ATV-412	MINI BLANK DOOR COB – CODE P10000073000000
ATV-416	PLASTIC CASH BOX - STANDARD
ATV-431	LEG LEVELLER M16x102 with rubber pad
ATV-433	SWIVELING CASTOR Ø80
ATV-902	WASHER DIN125 M6, leg levellers
ATV-903	WASHER DIN125 M8, union bracket
ATV-911	WASHER DIN9021 M12, cabinet to platform fastening
ATV-922	SCREW DIN603 M8X45, castors and union bracket
ATV-939	SCREW DIN603 M6X70, leg levellers
ATV-948	SCREW DIN933, M12X45, cabinet to platform fastening
ATV-950	SCREW DIN 7505-B, 4X13
ATV-980	NUT DIN985 M6, leg levellers
ATV-981	NUT DIN985 M8, castors

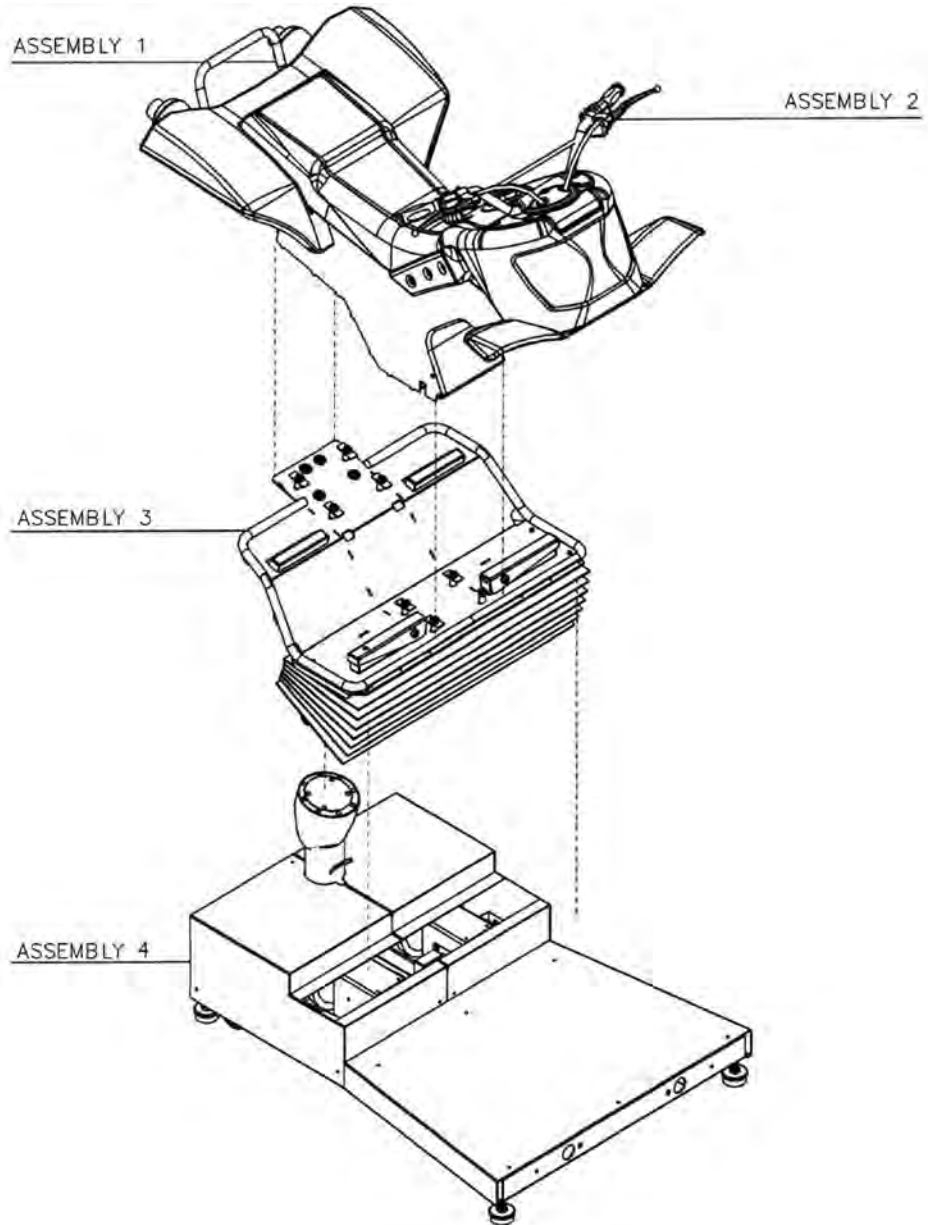


10.8 MONITOR CABINET – CONTROL PARTS

CODE	DESCRIPTION
ATV-110	WOODEN TRY
ATV-225	FARADAY BOX (AC. DRIVER)
ATV-231	SUPPORTING PLATE, toroidal transformer
ATV-355	PSU – SB180PL/R, monitor
ATV-357	CPU – ATV TRACK
ATV-358	DC DRIVER, steering motor
ATV-370	TOROIDAL TRANSFORMER 220V/18-0-18/160VA/4,44A-CROVISA 218316
ATV-371	AUTOTRANSFORMER 117V/220V/1500VA (optional for USA)
ATV-372	INDUCTANCE, 10 mH, 6A
ATV-373	EMI SHIELDING FERRITE - SLEEVE CORE, 26x28x13 (MOTOR)
ATV-374	CYLINDRICAL EMI SUPPRESION CORE (SIGNAL)
ATV-385	DERIVATION TERMINAL BLOCK BM 9982 - GND
ATV-386	DERIVATION TERMINAL BLOCCK BM997 – POWER SUPPLY
ATV-389	FIXING RAIL for derivation terminal blocks
ATV-390	SERIAL FILTER 800 / 6A - CODE 806G
ATV-392	AC DRIVER SE11200075, induction motor
ATV-902	WASHER DIN 125, M6
ATV-944	SCREW DIN 912, M6X70



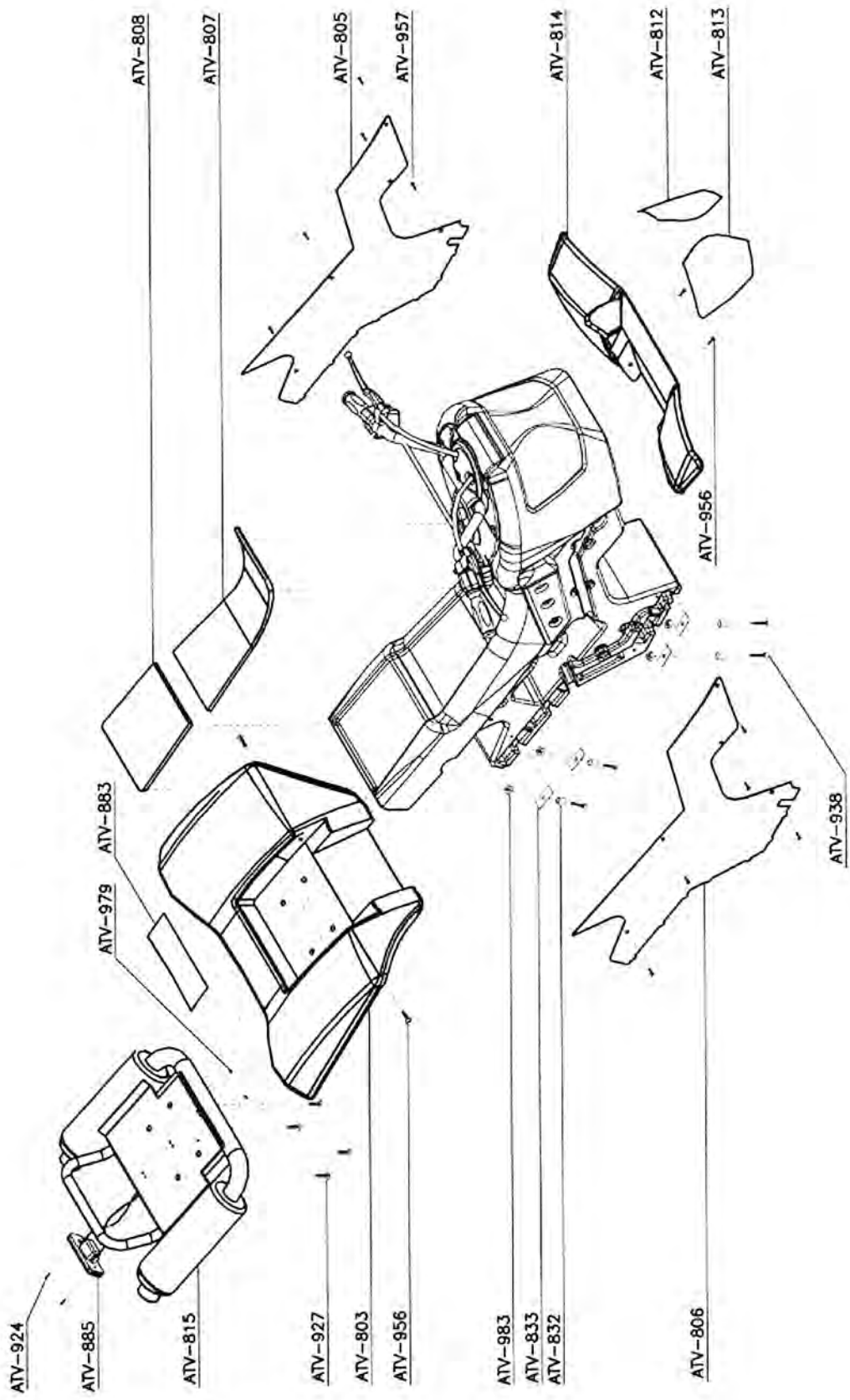
10.9 PLATFORM – MAIN ASSEMBLIES



10.10 ASSEMBLY 1 – DESIGN RELATED PARTS

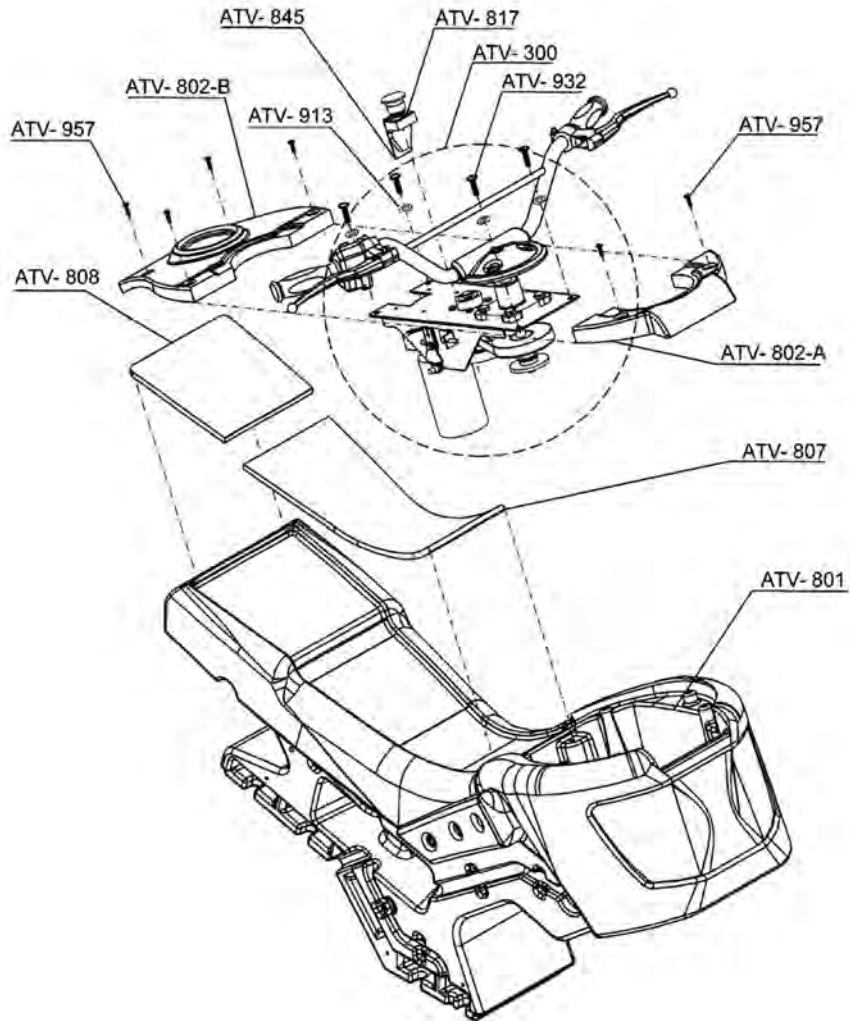
CODE	DESCRIPTION
ATV-803	BACK MUDGUARDS
ATV-805	LEFT SIDE COVER
ATV-806	RIGHT SIDE COVER
ATV-807	SEAT RUBBER – FRONT
ATV-808	SEAT RUBBER – REAR
ATV-812	STICKER – LEFT, head of the rotomoulded chassis
ATV-813	STICKER – RIGHT, head of the rotomoulded chassis
ATV-814	FRONT MUDGUARDS
ATV-815	REAR ASSEMBLY, including exhaust pipes and handle
ATV-832	SPACER SLEEVE
ATV-833	SQUARE WASHER
ATV-883	STICKER, back mudguards (instructions)
ATV-885	BRAKE LIGHT
ATV-924	SCREW DIN7985 M4X20
ATV-927	SCREW DIN912 M8X16
ATV-938	SCREW DIN912 M10X40
ATV-956	SCREW UM1001 M8X12
ATV-957	SCREW UM1001 M5X10, zinc plated
ATV-979	NUT DIN985 M4
ATV-983	NUT DIN985 M10

Gaelco - ATV TRACK- MOTION



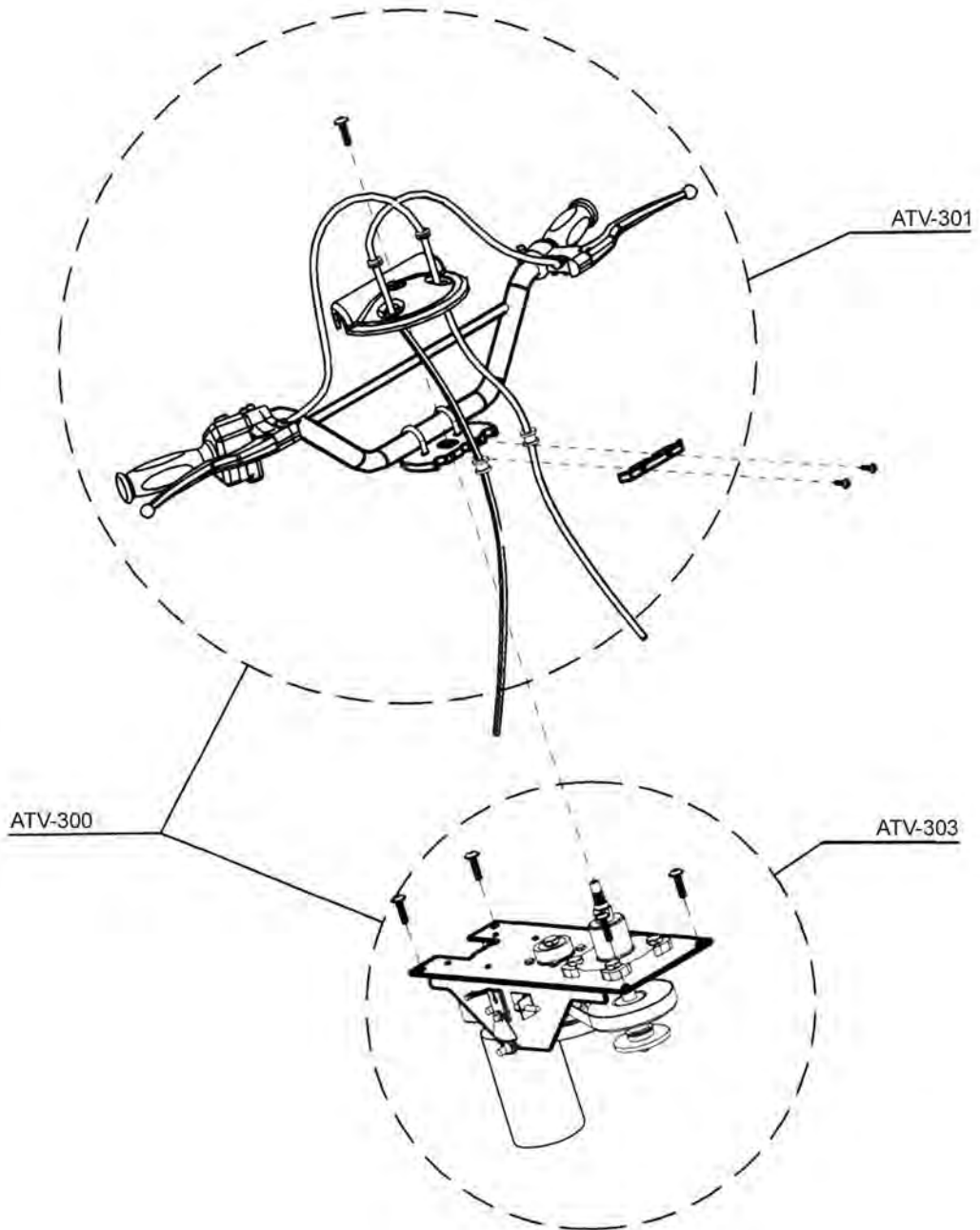
10.11 ASSEMBLY 1 – PARTS ON TOP

CODE	DESCRIPTION
ATV-300	STEERING ASSEMBLY
ATV-801	ROTOMOULDED CHASSIS, orange
ATV-802A	FUEL TANK COVER – FRONT
ATV-802B	FUEL TANK COVER – REAR
ATV-807	SEAT RUBBER – FRONT
ATV-808	SEAT RUBBER – REAR
ATV-817	EMERGENCY STOP BUTTON
ATV-845	STOPPER BRACKET, emergency button
ATV-932	SCREW DIN912 M8
ATV-913	SPRING WASHER DIN197 M8
ATV-957	SCREW UM1001 M5X10



10.12 ASSEMBLY 2 (STEERING ASSEMBLY ATV-300)

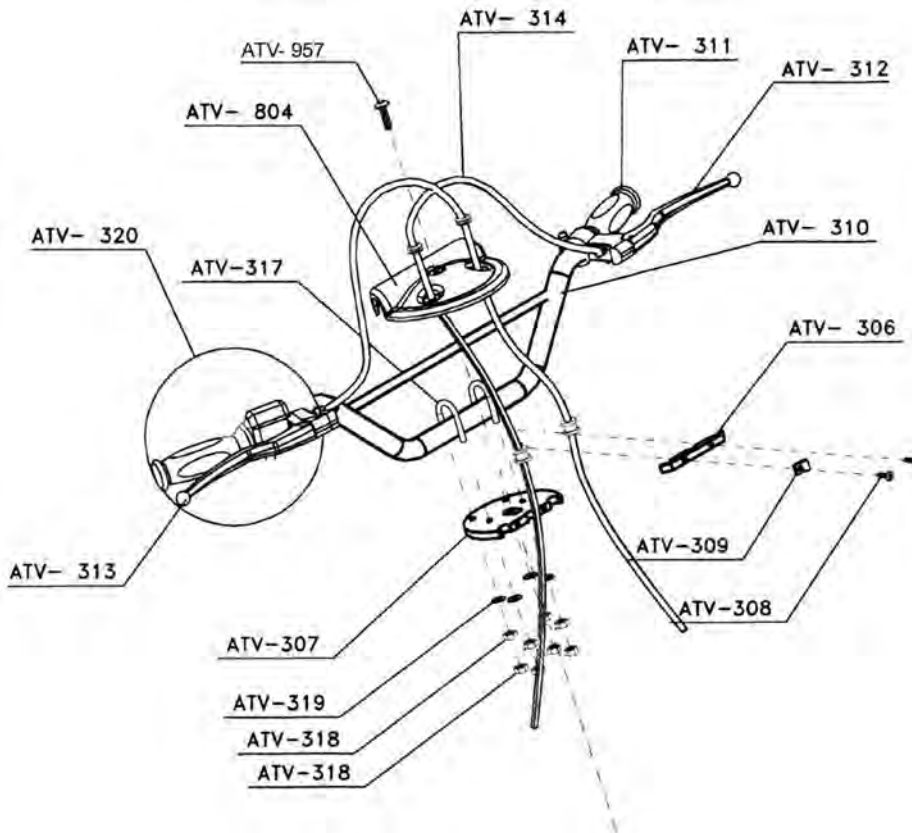
CODE	DESCRIPTION
ATV-301	HANDLEBAR ASSEMBLY
ATV-303	STEERING MECHANISM



ATV-300 = ATV-301 + ATV-303 ASSEMBLED TOGETHER

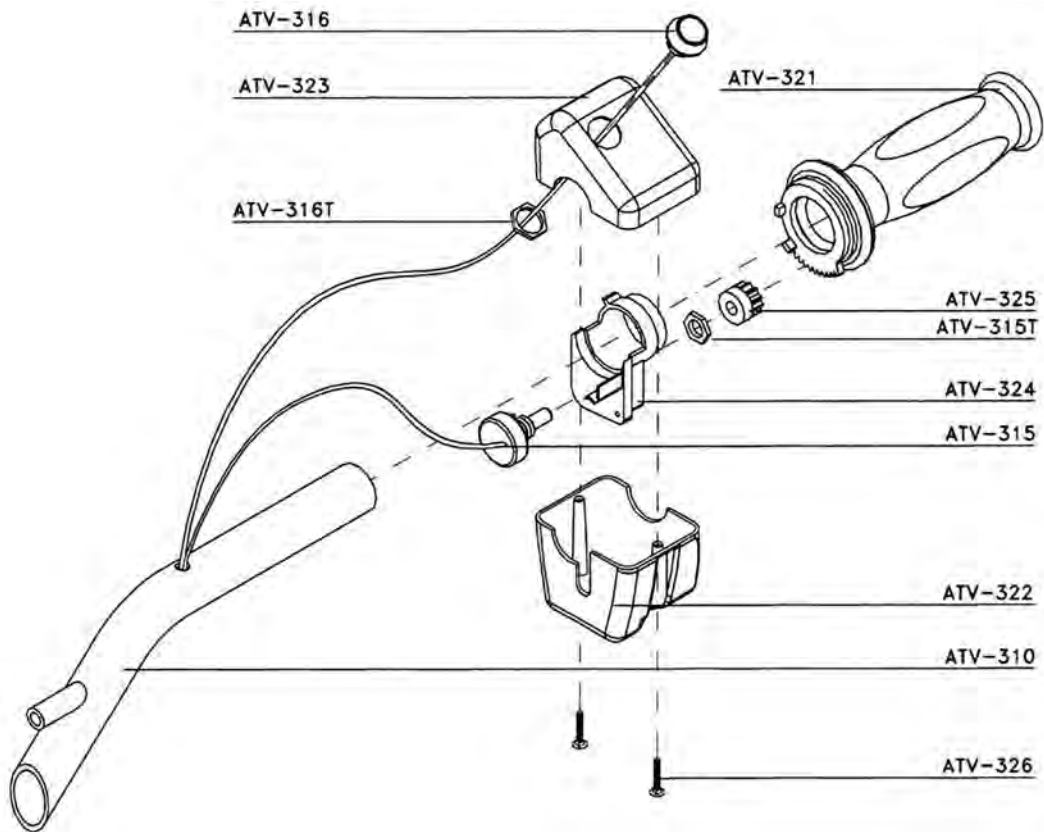
10.13 HANDLEBAR ASSEMBLY (ATV-301)

CODE	DESCRIPTION
ATV-306	HANDLEBAR BRACKET – A
ATV-307	HANDLEBAR BRACKET – B
ATV-308	SCREW DIN912 M5X20
ATV-309	PLASTIC CLAMP
ATV-310	HANDLEBAR
ATV-311	RUBBER GRIP Ø22
ATV-312	BRAKE LEVER – LEFT 20012009
ATV-313	BRAKE LEVER – RIGHT 20012008
ATV-314	BRAKE CABLE
ATV-317	CLAMP Ø22X50 M6
ATV-318	NUT DIN394 M6
ATV-319	WASHER DIN127 M6
ATV-320	THROTTLE ASSEMBLY
ATV-804	PLASTIC CUPOLA
ATV-957	SCREW UM1001 M5X10 plastic cupola



10.14 THROTTLE ASSEMBLY (ATV-320)

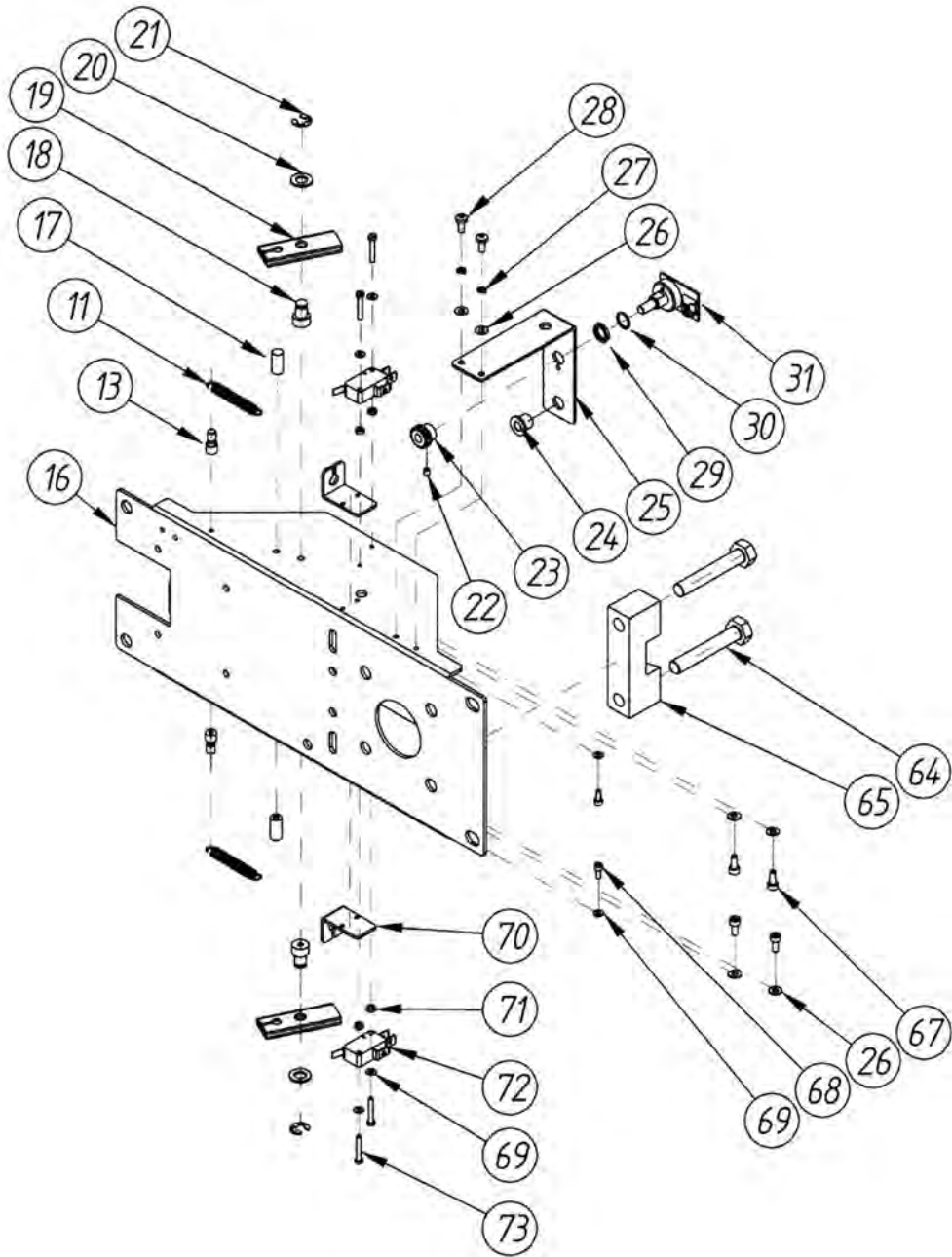
CODE	DESCRIPTION
ATV-310	HANDLEBAR
ATV-315	5KΩ POTENTIOMETER – GAELCO
ATV-315T	POTENTIOMETER NUT
ATV-316	PUSH BUTTON – START / VIEW, with cable
ATV-316T	NUT, push button
ATV-321	THROTTLE GRIP 1759.02.2201
ATV-322	BOTTOM COVER 1745.02.2173
ATV-323	TOP COVER
ATV-324	POTENTIOMETER SUPPORT 1745.02.2174
ATV-325	POTENTIOMETER GEAR, zamak
ATV-326	SCREW DIN912 M5X15



10.15 STEERING MECHANISM – BLOCK A

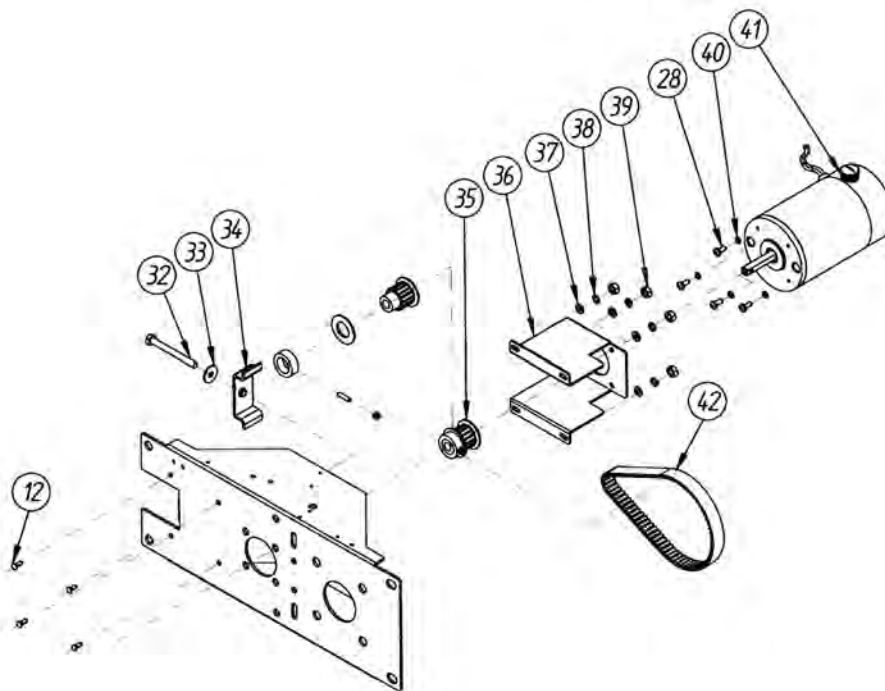
	MANUF. CODE	DESCRIPTION
11	C-11-404311	SPRING CK-67
13	S-GA-QU014001	SPRING HOLDER Ø6X17
17	S-GA-QU012001	LEVER SOPPER Ø8X17
18	S-GA-QU013001	LEVER SHAFT Ø12 (Ø8X17)
19	S-GA-QU015002	LEVER AP-02 (55X20X6)
20	C-22-03018	FLAT WASHER DIN125 Ø8mm, zinc plated
21	C-22-04017	CIRCLIP DIN6799 Ø7mm
22	C-22-0501406	GRUB SCREW DIN913 M4X6
23	C-40-401510	POTENTIOMETER PINION, CuZn37 (Ø15.75X11.4)
24	C-43-050300	BUSH Ø14X10, self oil
25	S-GA-QU000301	POTENTIOMETER BRACKET AP-02, zinc plated
26	C-22-03014	FLAT WASHER DIN125 Ø4mm, zinc plated
27	C-22-03064	SPRING WASHER DIN7980 Ø4mm (Glower type)
28	C-22-0105410	SCREW DIN7985 M4X10, zinc plated
29	C-22-028038	POTENTIOMETER NUT, 3-8
30	C-22-030038	POTENTIOMETER WASHER, 3-8
31	C-29-405680	POTENTIOMETER ASSEMBLY
64	C-22-01031060	SCREW DIN933 M10X60, hexagonal
65	C-GA-QU02010	POLYAMIDE STOPPER
67	C-22-0112410	SCREW DIN912 M4X10, Allen
68	C-22-011238	SCREW DIN912 M3X8, Allen
69	C-22-03013	FLAT WASHER DIN125 Ø3mm, zinc plated
71	C-10-1401010	SPACER Ø6X2.5, CuZn37
72	C-09-11231	MICROSWITCH C-09-11231
73	C-22-0104320	SCREW DIN84, zinc plated (C-22-014320)

Gaelco - ATV Quads Track



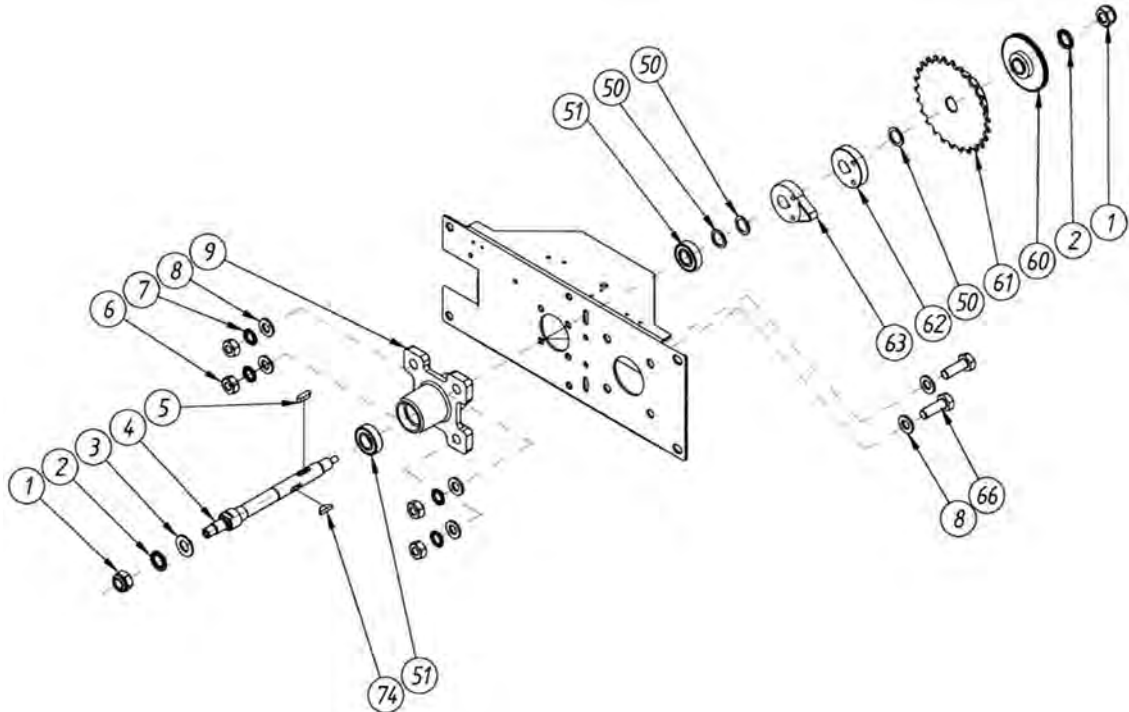
10.16 STEERING MECHANISM – BLOCK B

	MANUF. CODE	DESCRIPTION
12	C-22-9950510	SCREW M5X10 (to be riveted)
32	C-22-0103660	SCREW DIN933 M6X60, hexagonal, zinc plated
33	C-22-03036	WASHER DIN9021 M6, zinc plated
34	S-40-0250301	BELT FASTENER PLATE AP-02
35	S40013202301	DRIVE PULLEY Ø31.2X30.5, steering motor
36	S-GA-QU000201	MOUNTING BRACKET, steering motor
37	C-22-03015	FLAT WASHER DIN125 Ø5mm, zinc plated
38	C-22-03085	SPRING WASHER DIN6798/A Ø5mm
39	C-22-02015	NUT DIN934 M5, zinc plated
40	C-22-03084	SPRING WASHER DIN6798/A Ø4mm
41	C-29-401582/1	STEERING MOTOR – UJAQUE CC-1582/1
42	C-40-085027	STEERING DRIVE BELT HTD-400-5M-15



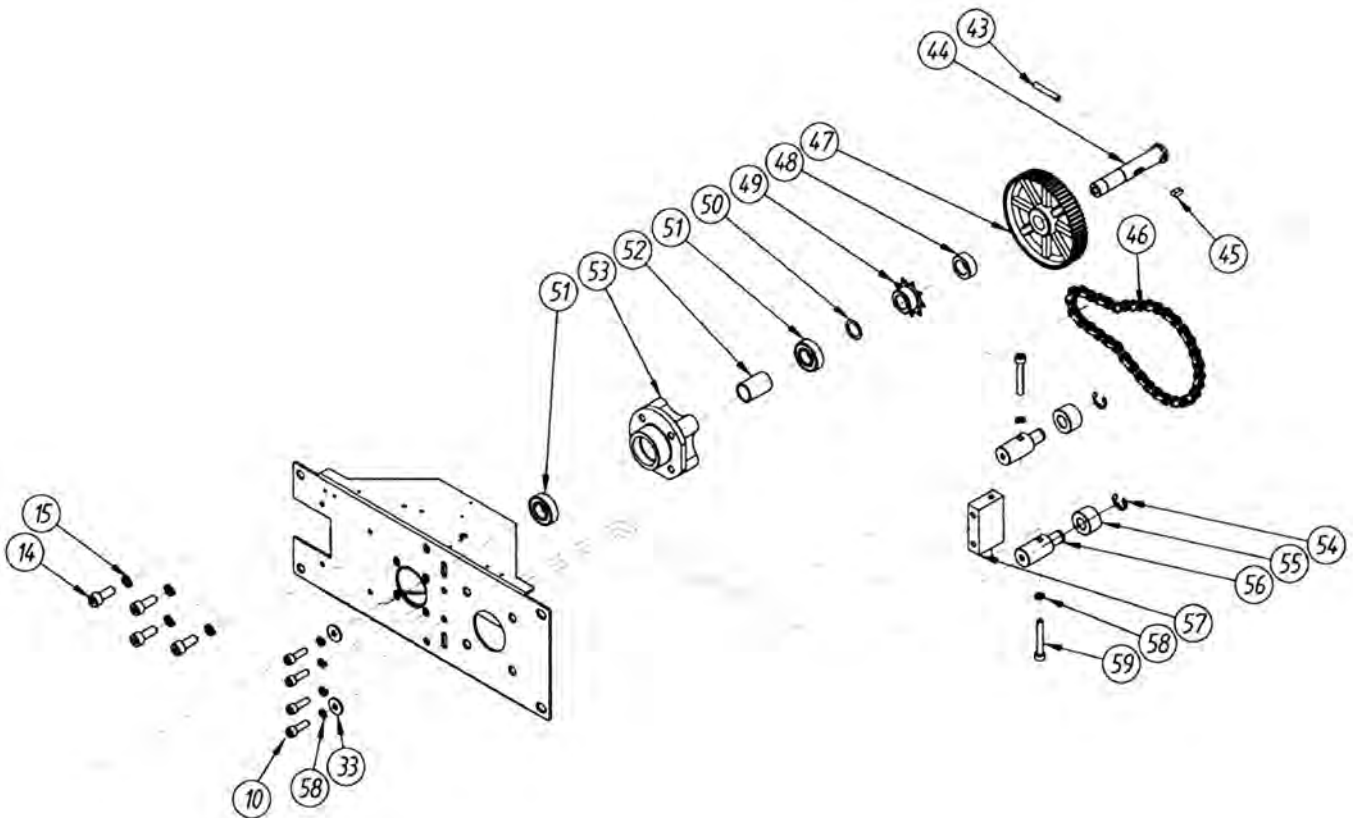
10.17 STEERING MECHANISM – BLOCK C

	MANUF. CODE	DESCRIPTION
1	C-22-020212	LOCKNUT DIN985 M12, zinc plated
2	C-22-030812	SPRING WASHER DIN6798/A Ø12mm
3	C-22-030112	FLAT WASHER DIN125 Ø12, zinc plated
4	C-GA-QU010100	SHAFT 194.5X10X15X0.15X125.8mm
5	C-22-800255518	WOODRUFF KEY DIN6885
6	C-22-020110	NUT DIN934 M10
7	C-22-030810	SPRING WASHER SIN6798/A Ø10mm
8	C-22-030110	FLAT WASHER DIN125 Ø10mm, zinc plated
9	C-40-000300	BEARING HOUSING, zamak
50	C-22-03601522	WASHER DIN988PS (15X21X1)
51	C-40-206002	BEARING 6002-ZZ (Ø32X9)
60	C-40-022197	PLASTIC PINION M-0.75 Z80
61	C-GA-QU04020	DRIVE GEAR, metallic (Ø111X20.1)
62	S-40-042010T	DISC Ø45X10mm
63	C-40-000A302	STEERING STOPPER, zamak
66	C-22-01031030	SCREW DIN933 M10X30, hexagonal



10.18 STEERING MECHANISM – BLOCK D

	MANUF. CODE	DESCRIPTION
10	C-22-0112620	SCREW DIN912 M6X20, Allen
14	C-22-0112820	SCREW DIN912 M8X20, Allen
15	C-22-03068	SPRING WASHER DIN7980 Ø8mm (Glower type)
43	C-GA-QU040450	SPECIAL BOLT, tempered
44	C-GA-QU010200	SHAFT 93X10.5X89.5
45	C-22-80025512	WOODRUFF KEY DIN6885 (5X5X12)
46	C-GA-QU04010	DRIVE CHAIN
47	C-GA-QU04047	PLASTIC PULLEY Z-64 (Ø100.7X18)
48	S-GA-QU052001	SPACER SLEEVE Ø15.5X25X10, zinc plated
49	C-GA-QU04030	DRIVE PINION, metallic (Ø43x13.8)
50	C-22-03601522	WASHER DIN988PS (Ø15X21X1)
51	C-40-206002	BEARING 6002-ZZ (Ø32X9)
52	C-22-040110	SPACER SLEEVE, bearings (Ø16 (Ø20X29.75))
53	C-40-000310	BEARING HOUSING (SPECIAL), zamak
54	C-22-040110	CIRCLIP DIN6799 Ø10mm
55	C-GA-QU02030	POLYAMIDE ROLLER, chain fastener
56	C-GA-QU01030	SHAFT Ø20X54.2)
57	C-GA-QU02020	ALUMINIUM BLOCK, chain fastener
58	C-22-03066	SPRING WASHER DIN7980 Ø16 (Glower type)
59	C-22-0112640	SCREW DIN912 M6X40, Allen

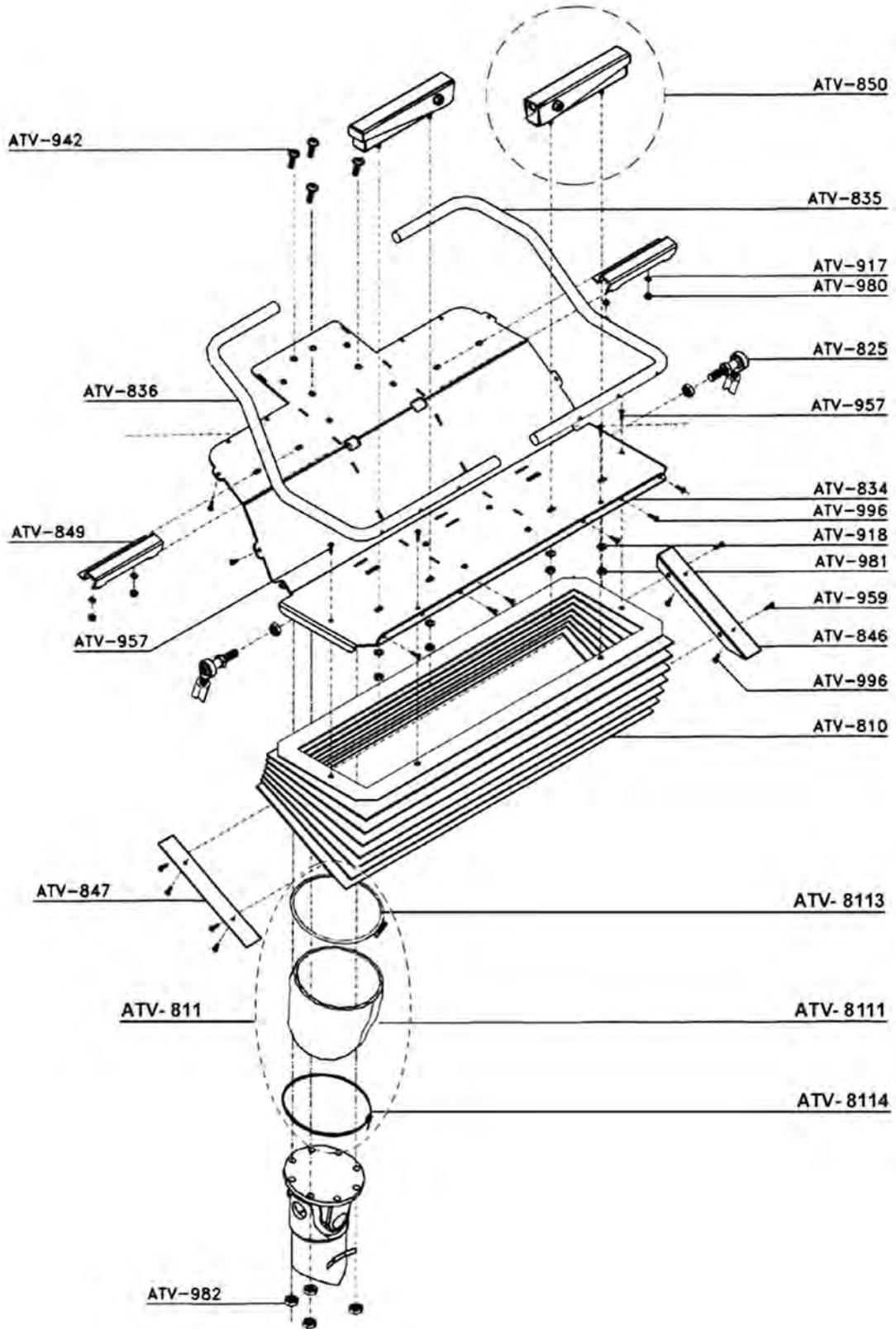


10.19 ASSEMBLY 3 - MOBILE PLATFORM

CODE	DESCRIPTION
ATV-810	PROTECTION FOLDING HOOD – MOBILE PLATFORM
ATV-811	PROTECTION HOOD ASSEMBLY – UNIVERSAL JOINT
ATV-8111	PROTECTION HOOD
ATV-8113	HOSE CLAMP W2 Ø140-160
ATV-8114	NYLON FASTENER 500mm
ATV-825	SWIVEL JOINT, maleM14+maleM14, MJ14M-STS
ATV-834	FOOTREST BASE (MOBILE PLATFORM)
ATV-835	BORDER TUBE – LEFT
ATV-836	BORDER TUBE – RIGHT
ATV-846	LEFT BRACKET, protection folding hood
ATV-847	RIGHT BRACKET, protection folding hood
ATV-849	PASSENGER FOOTREST
ATV-850	RIDER FOOTREST (see exploding 10.22)
ATV-917	WASHER DIN6798 A 6,2
ATV-918	WASHER DIN6798 A 8,2
ATV-942	SCREW DIN933 M12X30
ATV-957	SCREW UM1001 M5X10, zinc plated
ATV-959	SCREW UM1001 M6X10, black
ATV-980	NUT DIN985 M6
ATV-981	NUT DIN985 M8
ATV-982	NUT DIN985 M12
ATV-996	RIVET Ø5X10

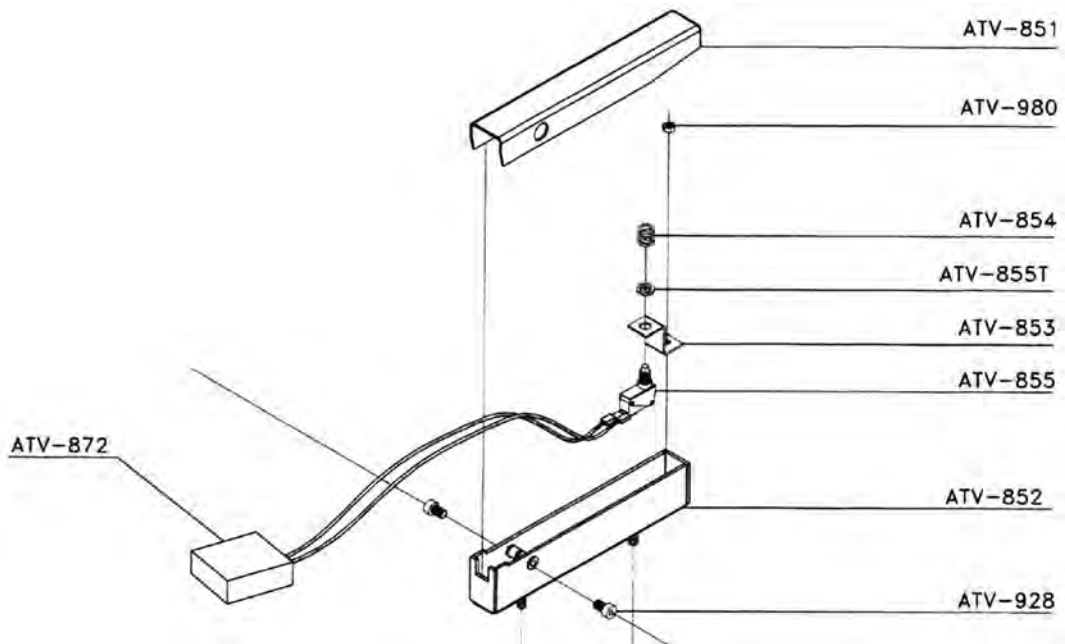
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10.20 RIDER FOOTREST ASSEMBLY

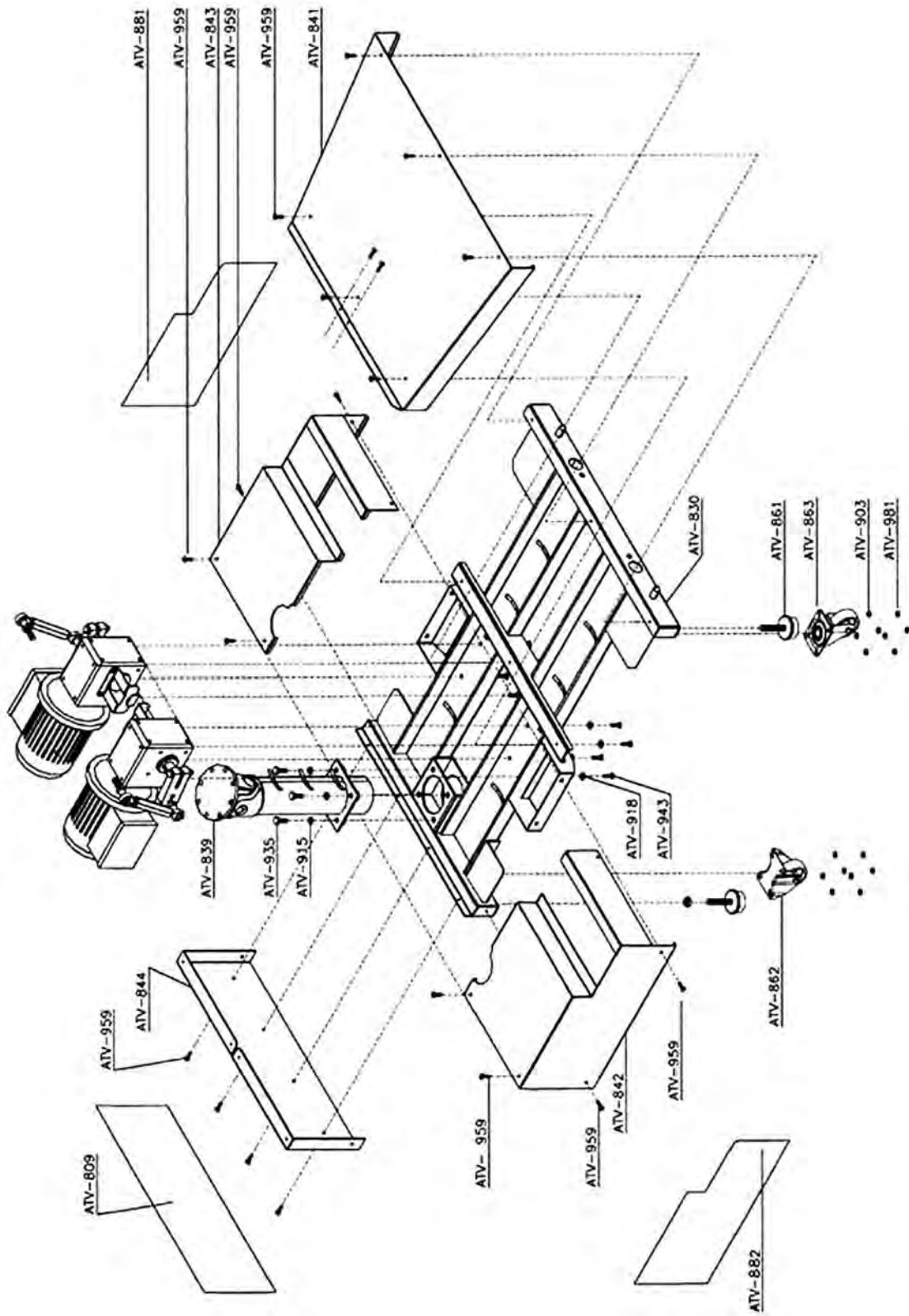
CODE	DESCRIPTION
ATV-851	RIDER FOOTREST - UPPER PLATE, aluminium
ATV-852	RIDER FOOTREST - BOTTOM PLATE, iron
ATV-853	BRACKET, rider footrest microswitch
ATV-854	SPRING, rider footrest
ATV-855	MICROSWITCH
ATV-855T	NUT, microswitch
ATV-872	MICROSWITCH CABLE, rider footrest
ATV-928	SCREW DIN912 M6x12, zinc plated
ATV-980	NUT DIN985 M6 (rider footrest - internal)



10.21 ASSEMBLY 4 - MAIN STRUCTURE

CODE	DESCRIPTION
ATV-809	STICKER, rear cover
ATV-830	MAIN STRUCTURE
ATV-839	CARDAN ASSEMBLY (universal joint + column + fixing plates)
ATV-841	FRONT STRUCTURE COVER
ATV-842	MOTOR COVER – RIGHT
ATV-843	MOTOR COVER – LEFT
ATV-844	MOTOR COVER – REAR
ATV-861	LEG LEVELLER, Ø60 M16, with rubber pad
ATV-862	CASTOR Ø80
ATV-863	SWIVELING CASTOR Ø80
ATV-881	STICKER-LEFT
ATV-882	STICKER-RIGHT
ATV-903	WASHER DIN125 M8
ATV-915	WASHER DIN127 M12
ATV-918	WASHER DIN 6798 A 8,2
ATV-935	SCREW DIN912 M12X20
ATV-943	SCREW DIN933 M8X20
ATV-959	SCREW UM1001 M6X10, black
ATV-981	NUT DIN985 M8

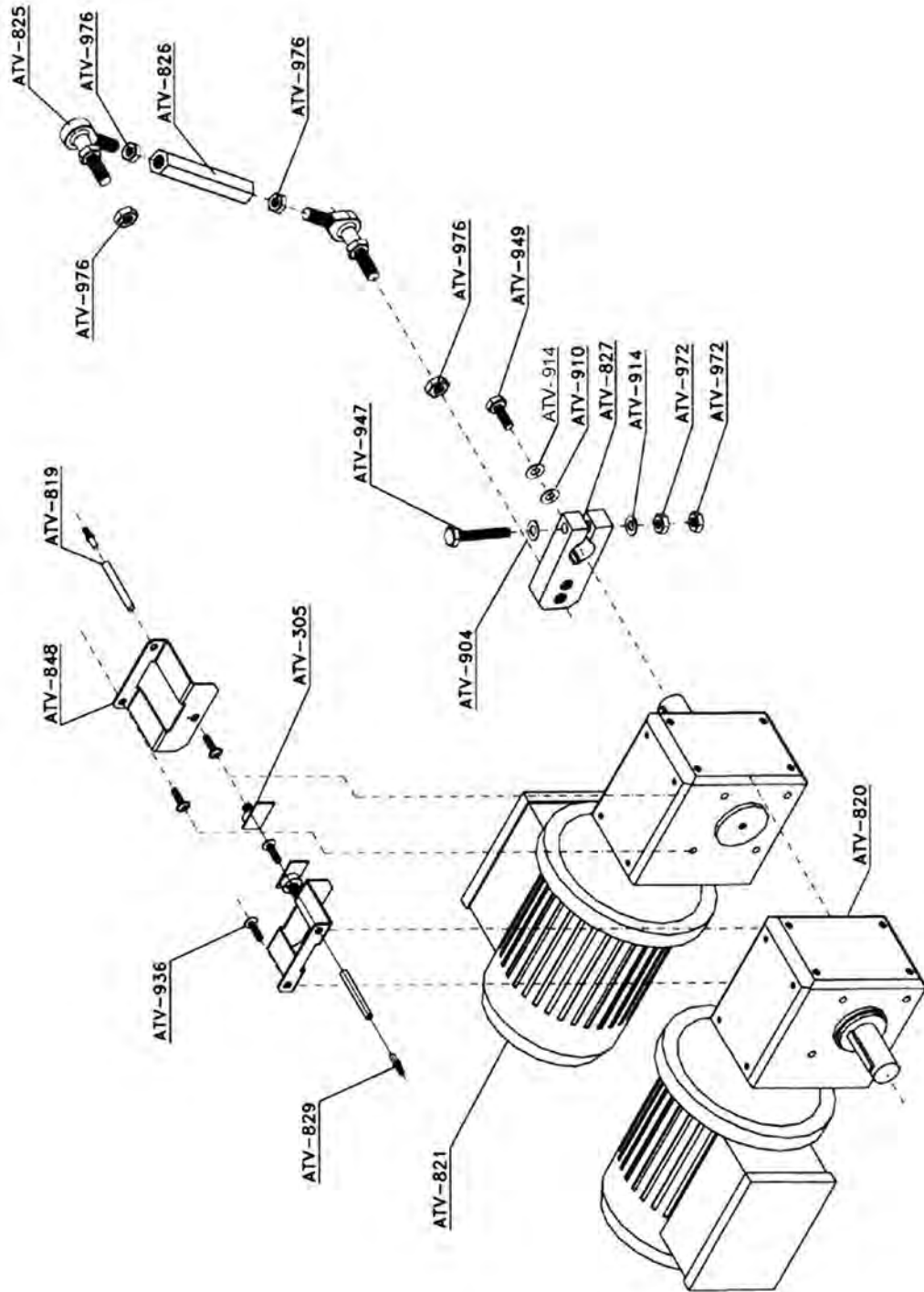
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10.22 MOTION MECHANISM

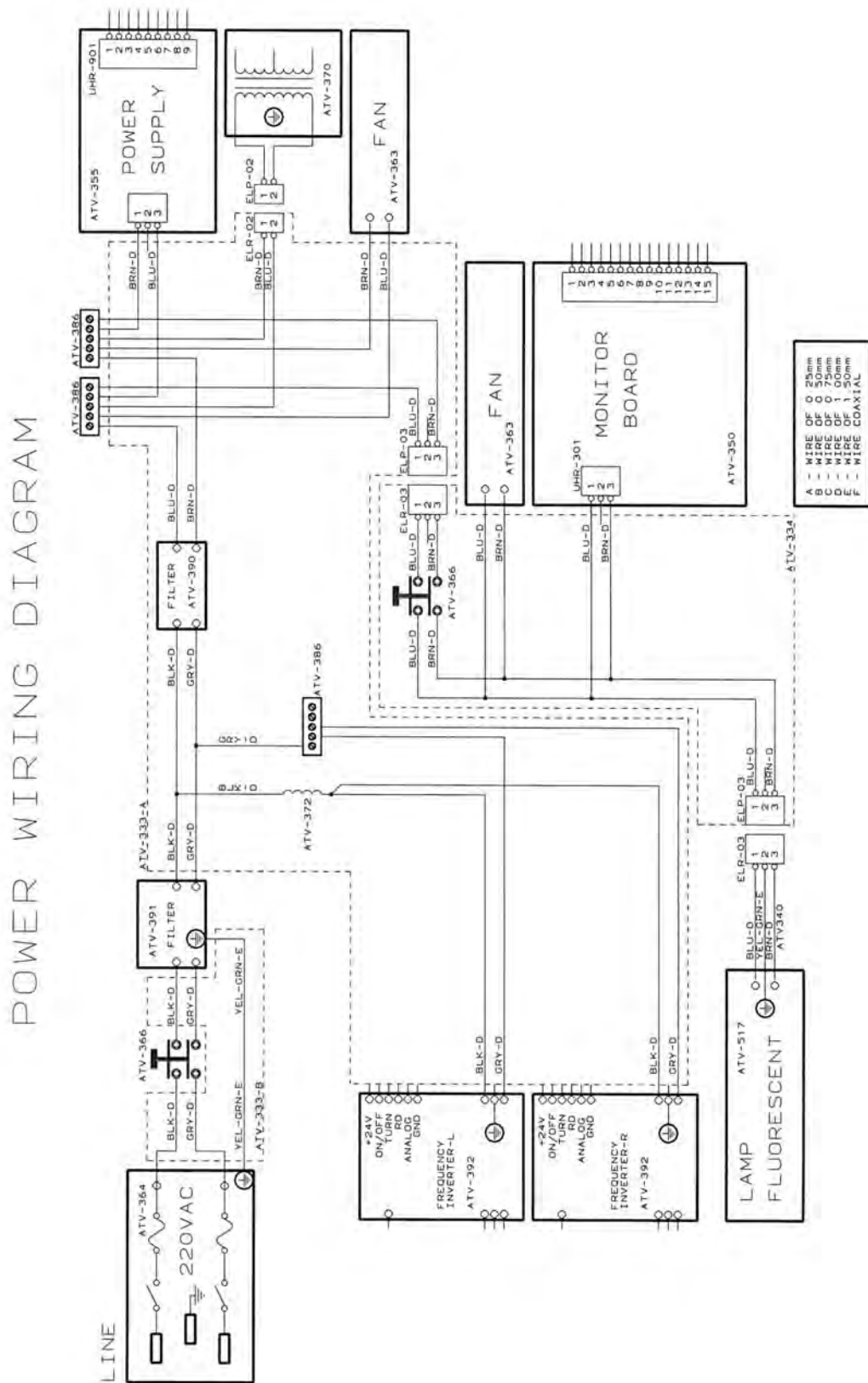
CODE	DESCRIPTION
ATV-305	5KΩ POTENTIOMETER – GAELCO
ATV-819	ELASTIC COUPLING, silicone tube Ø5
ATV-820	GEARED MOTOR MB2301-S1-B00C-40-TU-LSMV80L – RIGHT ASSY.
ATV-821	GEARED MOTOR MB2301-S1-B00C-40-TU-LSMV80L – LEFT ASSY.
ATV-825	SWIVEL JOINT, male M14 + male M14, 1702-MJ14M-ST5
ATV-826	HEXAGONAL ROD, motor transmission
ATV-827	SHAFT CRANK, motor transmission
ATV-829	CENTERING SCREW, elastic coupling
ATV-848	POTENTIOMETER BRACKET
ATV-904	WASHER DIN125 M10
ATV-910	WASHER DIN9021 M10
ATV-914	SPRING WASHER DIN127 M10
ATV-936	SCREW DIN912 M8X10
ATV-947	SCREW DIN933 M10X70
ATV-949	SCREW DIN933 M10X20
ATV-972	NUT DIN934 M10
ATV-976	LOCKNUT DIN936 M14, thread 2

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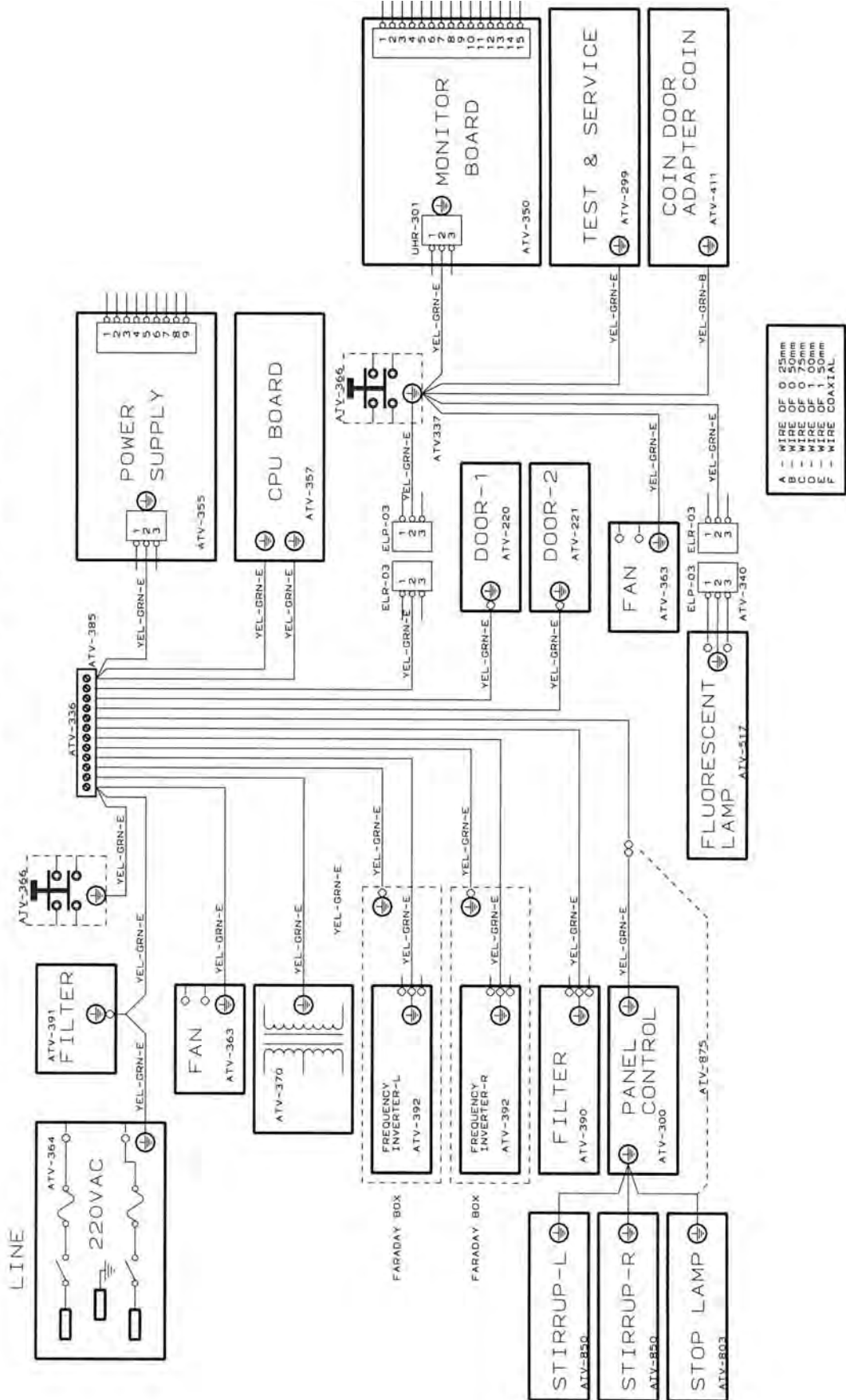
11. WIRING DIAGRAMS

11.1 POWER WIRING



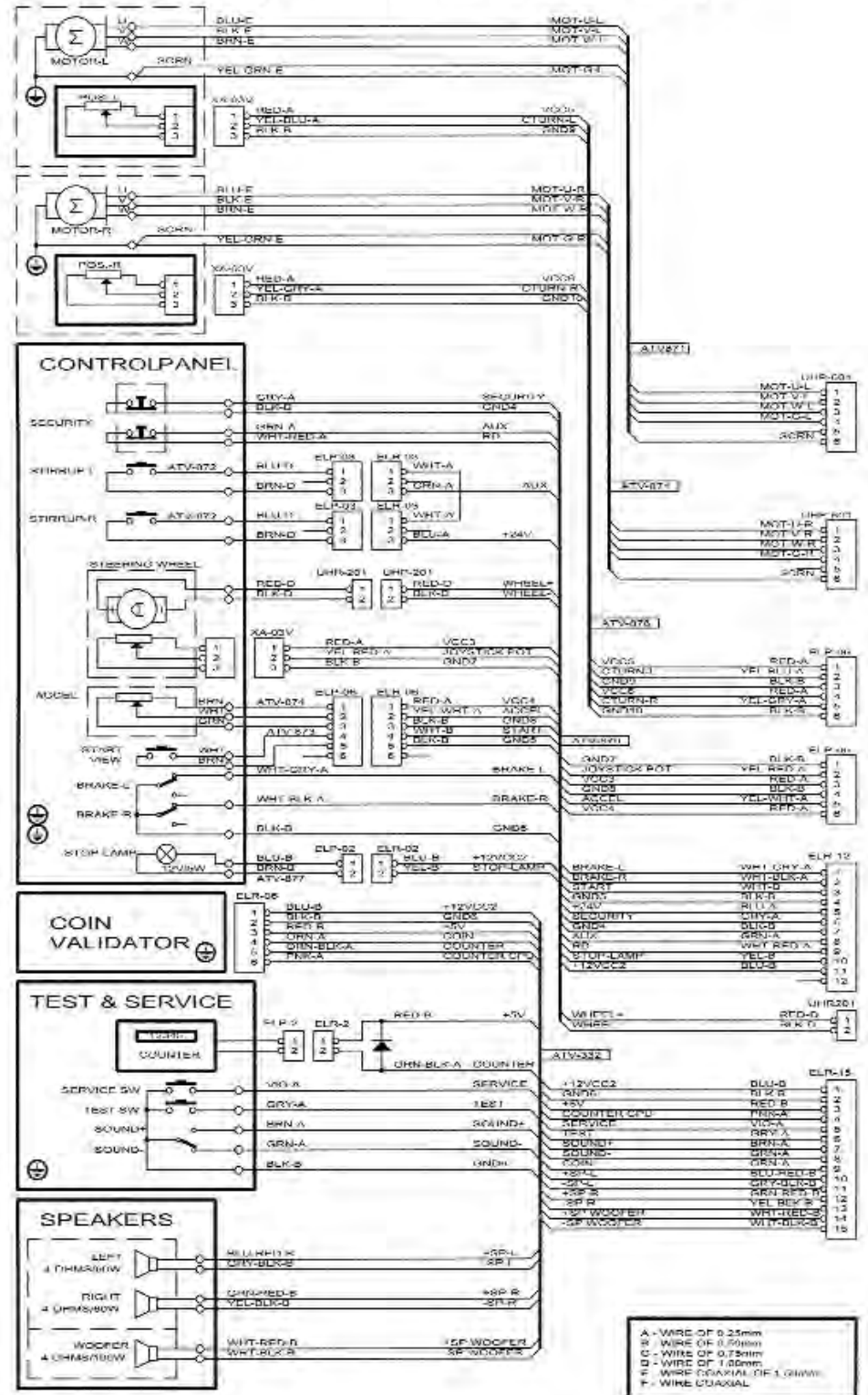
11.2 GROUND WIRING

GROUND WIRING DIAGRAM



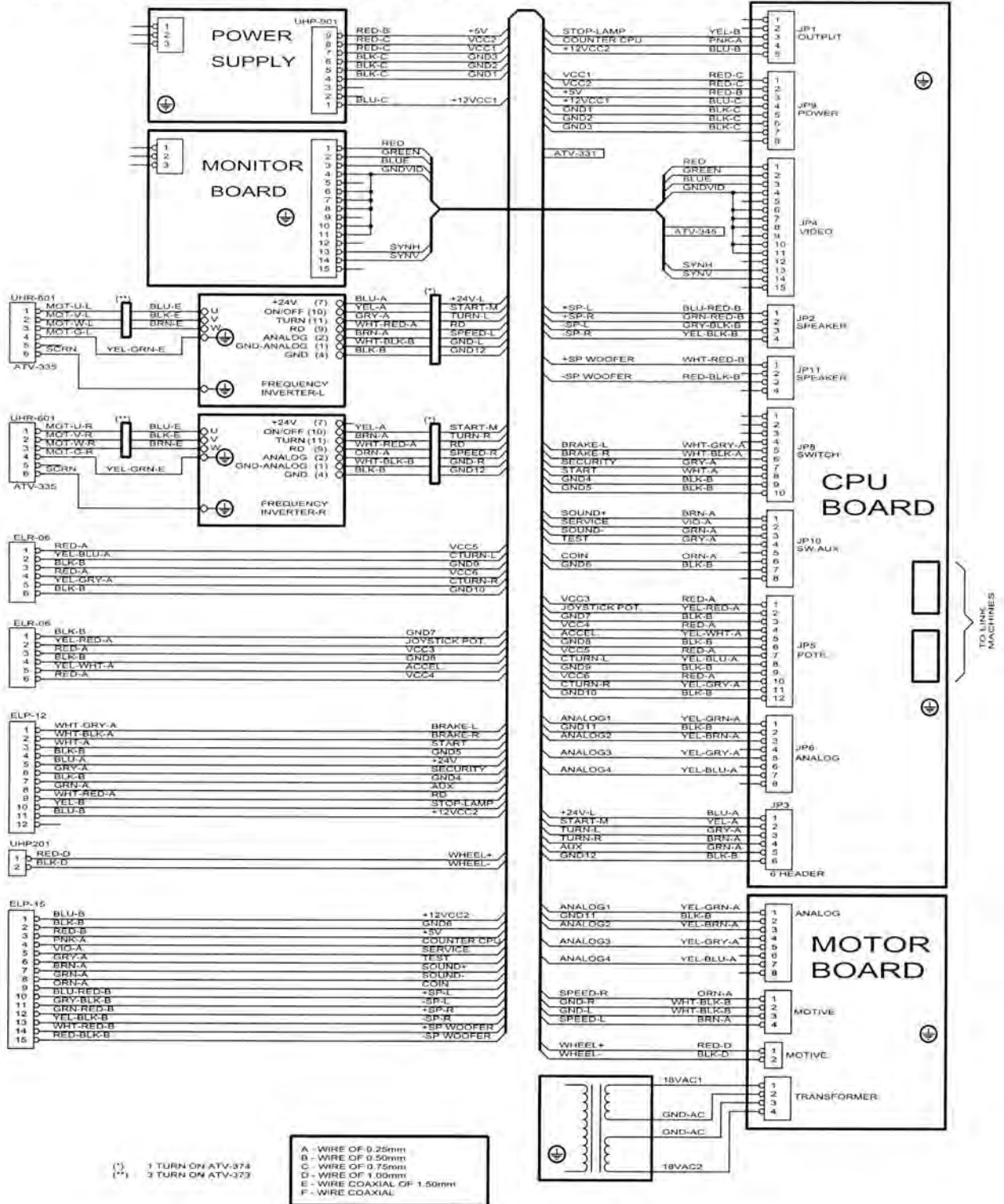
11.3 CABINET WIRING - SECTION A

PLATFORM WIRING DIAGRAM

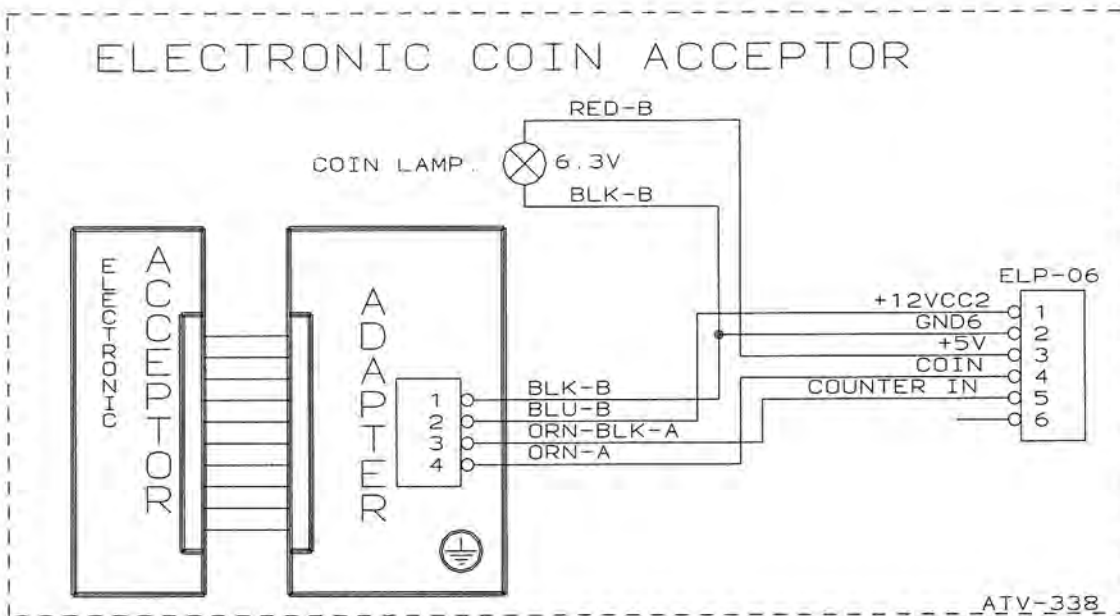
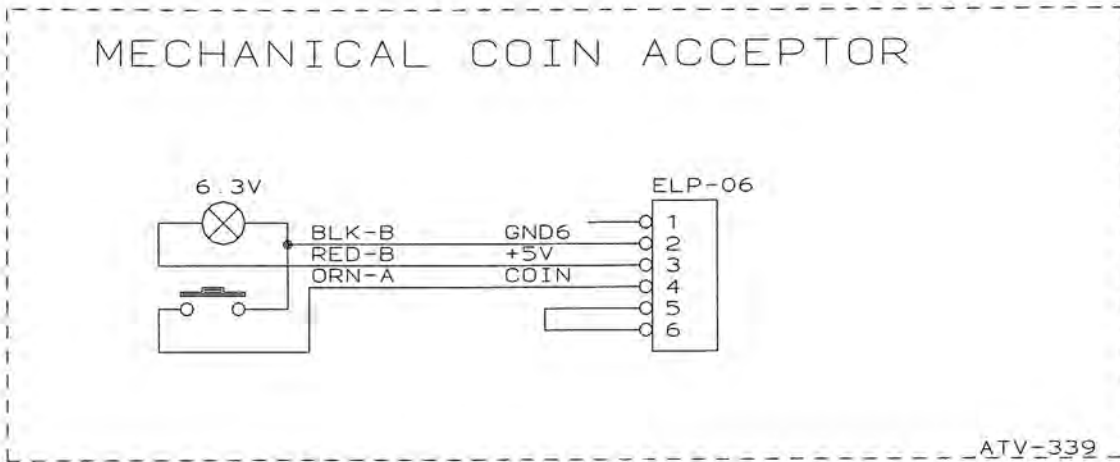


11.3 CABINET WIRING - SECTION B

CABINET WIRING DIAGRAM

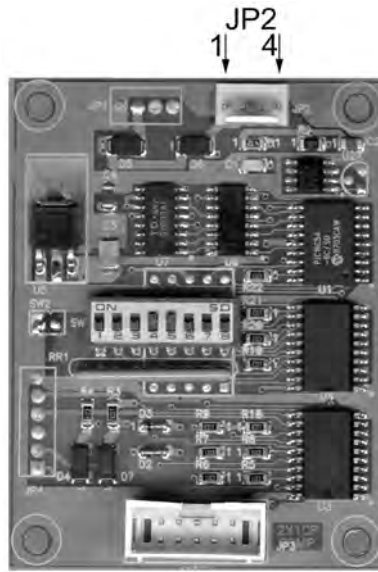


11.4 MECHANICAL AND ELECTRONIC COIN ACCEPTORS



12. CREDIT DISTRIBUTOR SETUP

JP1:Not used
JP2:Cabinet
JP3:Coin controller
JP4:Not used



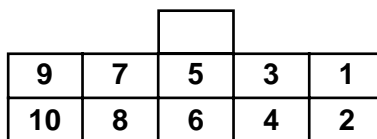
JP3

Connector JP2: This connector should be connected to ATV PCB wiring

JP2	Description	Values	Source/Destination
Pin 1	Input GND	GND	GND power supply
Pin 2	Input VDC	+12 VDC	DC power supply
Pin 3	Counter output	0/+5/+12 VDC	Coin counter
Pin4	Credits output	+5/0 VDC	Credits for CPU

Connector JP3: Input connector of electronic coin controller. Setup per channel.

PIN	Signal	Active
1	0V	0V
2	+12VDC	+12VDC
3	Output 5	0V
4	Output 6	0V
5	- - -	
6	Lock	High
7	Output 1	0V
8	Output 2	0V
9	Output 3	0V
10	Output 4	0V



(As seen from components side)

PROGRAMMING OF COIN CONTROLLERS

Controllers supported: COIN CONTROL C-120
 NRI G-13.6000
 MARS CASHFLOW 330

MARS 330/S 212	OPA	OPB	OPC	OPD	OPE	OPF
NRI G-13.6000	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
Coin Control C 120	Coin 1	Coin 2	Coin 3	Coin 4	Coin 5	Coin 6
PIN Controller:	7	8	9	10	3	4
USA	==	==	==	1 \$	50 Ct	25 Ct
Great Britain	==	1 £	50 Pen	==	20 Pen	10 Pen
Australia	==	==	5 \$	==	2 \$	1 \$
Switzerland	==	==	5 Fr	==	2 FS	1 FS
Sweden	==	10 Kr	5 Kr	==	==	1 Kr
Norway	20 Kr	10 Kr	5 Kr	==	==	1 Kr
EURO €	2€	1€	50c	==	20c	10c

SWITCH SETUP FOR EUROS

SW1: Always OFF
SW2: Always OFF
SW3: Not used

SW4-SW5: Extra Credits (Bonuses)

Combinations of this two dip switches are used to program bonuses (free games) according to the scale shown in the table. The table varies according to the game price selected.

SW6-SW7-SW8: Game Price

These dip switches are used to choose the game price. The bonus table shows the combination of game prices with the payments that allow the player to obtain extra games (bonuses).

(*) Add another credit for the second lap.

CREDITS table				BONUS table (SW4/SW5)			
SW6	SW7	SW8	Value/Credit	OFF/OFF	ON/OFF	OFF/ON	ON/ON
OFF	OFF	OFF	10c	No bonus	50c	40c	20c
ON	OFF	OFF	20c	No bonus	50c	40c	20c
OFF	ON	OFF	30c	No bonus	*50c	30c	60c
ON	ON	OFF	40c	No bonus	2€	1,6€	80c
OFF	OFF	ON	50c	No bonus	2,5€	2€	1€
ON	OFF	ON	80c	No bonus	2€	1,6€	80c
OFF	ON	ON	1€	No bonus	2,5€	2€	1€
ON	ON	ON	1,2€	No bonus	2€	1,6€	2,4€

APPLICATION EXAMPLES

Game price: 50c, NO BONUS

Switch set up:

SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON

Game price: 50c, BONUS FOR 2€ (4 credits + 1 credit free)

Switch setup:

SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
OFF	OFF	OFF	OFF	ON	OFF	OFF	ON

Game price: 1€, NO BONUS

Switch setup:

SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
OFF	OFF	OFF	OFF	OFF	OFF	ON	ON

Game price: 1€ , BONUS FOR 2,5€ (2 credits + 1 credit free)

Switch setup:

SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
OFF	OFF	OFF	ON	OFF	OFF	OFF	ON

SWITCH SETUP FOR OTHERS CURRENCIES

SW1: Always OFF

SW2: Coin multiplication factor

SW2=OFF Euro ₤, and rest of Europe	Chanel:	1	2	3	4	5	6
	Value:	X20	X10	X5	X4	X2	X1
SW2=ON (USA)	Chanel:	1	2	3	4	5	6
	Value:	X20	X10	X8	X4	X2	X1

SW3: Not used

SW4-SW5: Extra Credits (Bonuses)

Combinations of these two dip switches are used to program bonuses (free games) according to the scale shown in the table. The table varies according to the game price selected.

SW6-SW7-SW8: Game Price

These dip switches are used to choose the game price. The bonus table shows the combination of game prices with the payments that allow the player to obtain extra games (bonuses).

(*) Adds another credit for the second lap.

CREDITS table				BONUS table (SW4/SW5)			
SW6	SW7	SW8	Value/Credit	OFF/OFF	ON/OFF	OFF/ON	ON/ON
OFF	OFF	OFF	1	0	5	4	2
ON	OFF	OFF	2	0	5	4	2
OFF	ON	OFF	3	0	*5	3	6
ON	ON	OFF	4	0	20	16	8
OFF	OFF	ON	5	0	25	20	10
ON	OFF	ON	8	0	20	16	8
OFF	ON	ON	10	0	25	20	10
ON	ON	ON	12	0	20	16	24

APPLICATION EXAMPLES

Example 1

Switzerland	SW1 =	OFF	SERIAL input. (5 FS via PIN 5) = (Channel 3)
	SW2 =	OFF	Input values x1 x2 — x5
	SW3 =		Not used
	SW4 =	OFF	EXTRA credit on the 20th pulse (=20FF)
	SW5 =	ON	
1 FF = 1 pulse	SW6 =	OFF	5 pulses / 1 credit.
	SW7 =	OFF	
	SW8 =	ON	
RESULTS:	5 FS /1 credit; 20 FS / 5 credits		

Example 2

Sweden	SW1 =	OFF	SERIAL input. (5 Kr via PIN 5) = (Channel 3)
	SW2 =	OFF	Input values x1 x2 — x5
	SW3 =		Not used
	SW4 =	OFF	EXTRA credit on the 20th pulse (=20FF)
	SW5 =	ON	
1 Kr = 1 pulse	SW6 =	OFF	5 pulses / 1 credit.
	SW7 =	OFF	
	SW8 =	ON	
RESULTS:	5 Kr /1 credit; 20 Kr / 5 credits		

Example 3

Norway	SW1 =	OFF	SERIAL input. (5 Kr via PIN 5) = (Channel 3)
	SW2 =	OFF	Input values x1 x2 — x5
	SW3 =		Not used
	SW4 =	ON	EXTRA credit on the 25th pulse (=20Kr)
	SW5 =	OFF	
1 Kr = 1 pulse	SW6 =	OFF	10 pulses / 1 credit.
	SW7 =	ON	
	SW8 =	ON	
RESULTS:	10 Kr /1 credit; 25 Kr / 3 credits		

Example 4

Great Britain	SW1 =	OFF	SERIAL input. (10 Pen via PIN 8) = (Channel 6)
	SW2 =	OFF	Input values x1 x2 — x5
	SW3 =		Not used
	SW4 =	ON	EXTRA credits on the 5th pulse (=50 Pen)
	SW5 =	OFF	and 10th pulse (1 £)
1 Pen = 1 pulse	SW6 =	OFF	3 pulses / 1 credit.
	SW7 =	ON	
	SW8 =	OFF	
RESULTS:	30 Pen /1 credit; 50 Pen / 2 credits; 1 £ / 5 credits		

Gaelco - ATV Quads Track