

Imperial Research Report



**Army Division
AT-ST II ‘Lightning’
Project**

*The Empire’s Best Opportunity to
Dominate the Battlefield.*

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Army Division Researching / Development Plan



*The Empire's Best Opportunity to
Dominate the Battlefield.*

Introduction

For years, the Imperial war machine has gone to countless worlds, restoring order to the decay of the Old Republic. This is self is no small feat, but with the aid of Mighty Imperial Engineering in their works such as the mighty AT-AT, and development from the aging AT-PT to the AT-ST made this work of restoring order much easier.

However, In order to finish the work already done, we must continue to improve the methods and *tools* we use to cleanse the rabble of the 'New Republic' from the galaxy and instill a new order which is the cornerstone that we live by: "*Power, Order, Empire.*"

In this report, I will detail the plans being made to upgrade one of our current units in to a indispensable tool in the fight to rid the galaxy of the Enemy.

The AT-ST, (All Terrain Scout Vehicle) has served many roles through the years. However its limited range, and armor, as well as out dated weapons need to be upgraded badly. See section 1 on the ways we are developing these areas.

In addition to upgrading the range, armor, and weapons, Several options are being looked out to make the next generation of AT-ST; pilot, engineering, and repair friendly. These include:

- Making weapons systems on either side of the 'head' of the AT-ST modular, for easy repair, and for quick change out of weapon loads to meet the pilots and gunners particular demands. Or for a particular mission, this way the enemy is never sure of what they will actually face in combat.
- Upgrading the current sensors for greater visual / electronic coverage, as well as systems to provide other command vehicles to asset a situation from a safe area. This system also will allow the AT-ST to 'paint' targets, and in general allow the gunner to accurately pinpoint light targets.
- Installing Small shields to prolong the life of the unit in the field, this also allows for deeper penetration in to more hostile areas to scout for enemy positions without risk of the Unit being destroyed.

Section 1 Initial phase of development: Key Components

As we all know, the original Chassis of the AT-ST was developed from the AT-PT. This was good, but the design of the AT-ST left it very top heavy, and unbalanced, with most of the weight being in the head, and no support in the legs. This was the first thing that was to be changed.

1. The powers full, small engine of the AT-ST it one of its main advantages. However it's use of fusion fuel limited its range, and the power output of the AT-ST. This was fixed by taking a standard speeder engine to 'super charge' the engine with added power out put, and serve as a power full fuel injector. This increased the range of the unit to a full 28% beyond normal, and a total power increase of +58.3%!
2. Next weight was a key issue. The new Engine was impressive, but the additional weight meant that the legs would have to be retrofitted to accommodate this, as well as the increased strain of a faster engine, producing faster speeds. The researchers also kept in mind to make sure to balance out the top-heavy head when making up the new legs. The result increased the total weight of the legs, balancing out the engine, only increasing speed by a few kilometers, but the platform was now stable.

Now that the main components of the new design we finished it was time to move to the final, most daunting task, and that was the total re-design of the head. This included the most controversial part that the new design would incorporate: Shields.

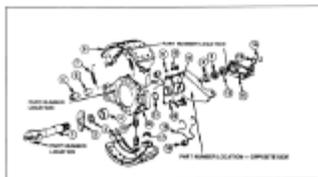
Development of Shields

The first problem we encountered with the idea of placing shields on the new AT-ST was size and power.

1. The first task was to take the head and totally redesign it, this included automating many systems, and configuring the seats and equipment to allow for more space. Almost 86% of the 200kg cargo was removed, this in addition of adding 2 extra feet to the total size of the head.
2. While redesigning the head, We took the liberty to contain existing systems that we vulnerable to attack such as the locomotion computer that gathers important data from the legs and feet, as well as important ground data. We also upgraded the existing sensors and made the opening hatch tamper proof.
3. After upgrading the systems, the next task was power. Even with the addition of the smaller sub-engine, there was not enough power. So, a smaller generator was built into the head. This allowed enough power to run the shields, but in all out mode, or situations were needed power would have to be supplemented to other systems, the shields would be first to run out of power. We are still developing a smaller shield generator; witch isn't so power hungry.

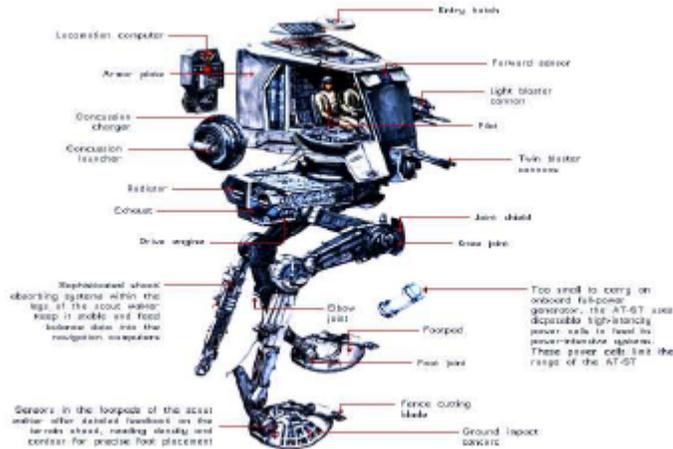
Figure 1.

Image of shield generator



The new cockpit: Completely re-designed, we tore out the old seats and systems and made a new ergonomically design that allows a better view for the pilot, who now sits higher, for more visibility, and the gunner who now sits directly beneath the pilot. Control systems, and instrument panels are now at easy reach for each of the crew, and a droid sub system now provided added versatility by allowing either crewmembers to focus on a specific task with out having to worry about monitoring all the monitors.

Figure 2.



Monitors

There are now four monitors in the new design. Two medium sized monitors still remain in the front allowing for gunner and the pilot a view of the battlefield through either standard or different sensor frequencies. As usual either monitor can be switched to a rear view, and two additional small monitors on each side provide a view of left and right. This allows for a full field of view, and less chance of surprise attacks from any direction.

Safety measures

When we redesigned the cockpit we also thought about the most important part of the AT-ST: the crew. This in mind, we developed a breach escape module allowing the crew to escape in case of emergency. Also, we developed a tamper proof magnetically sealed hatch that would ensure that no one would dare to attempt to enter. If they did they would receive a nasty shock from the hatch. Of course we also installed a priority override controls in the cockpit, as well as self-destruct programming if the unit were to fall into enemy hands.



Legs, Feet and armor

Next, was the development of the legs, feet and armor of the new design. This included:

1. Legs: We upgraded the legs, with additional feed back units but, more importantly, we installed several small micro filament wires along the front base of the legs, and beefed up the blast guards on the joints. Also, the legs became thicker to compensate for the increased power output of the new engine.

The small micro-filament wires along the front base of the AT-ST serve as fine rope cutters if the enemy attempted to trip the unit.

2. Feet: The feet were drastically upgraded from the previous version. This included adding several 'retractable spikes' along the front leading part of the foot, witch gives the AT-ST II more grip on slick surfaces, or rocky terrain. Additionally two more retractable 'claws' were put on the sides of the foot, witch provide the unit stability when firing all of its guns. As well additional sensors were placed on the bottom of the foot, witch feed back to the main computer. This allows for fine movement control, and warns the pilot of any mines that he might step on.
3. Armor: The armor was only minimally upgraded, however it was totally replaced with smooth non-pours material, witch also is non magnetic for protection against magnetic mines.

Other

In addition to the following, other systems were also moderately improved, such as the neck, with extra equipment to make the head turn faster. The heat sink on the top of the head witch incorporates small refrigeration coils. This cools the cockpit for regulated temperatures on hot planets, and a heater element for colder planets. A special undercarriage for the AT-ST II can also be included, which dispenses mines.



Note on some models the mine undercarriage can be replaced with a auto blaster for use against enemy ground troops

Weapons; power out put

The final area of work to be done was on the weapons, power out-put signal and sensor masking properties of the AT-ST II.

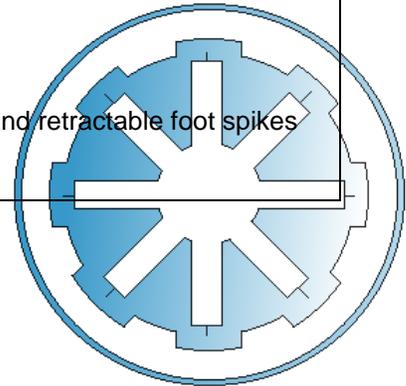
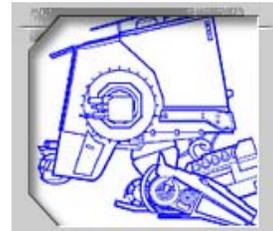
1. Main Weapon: We changed out the main heavy blaster cannons with powerful laser cannons. This increased the damage potential of the AT-ST II and allowed for increased rate of fire. But it lowered the range and accuracy of the weapon. On request models may be equipped with the new guns or may keep the older, more reliable guns, witch fire control was also increased.
2. Power out-put signal: The power output signal of the AT-ST II is almost twice that of the old one. Due to this increased output, several buffers, and a baffle on the front of the engines was placed, as well as several other sensors masking systems in the head. The reduction is so significant that the AT-ST II appears to be an AT-ST in power output and signal output. However it means that the AT-ST II must undergo an additional hour of maintenance to continue running effectively.

Stats:

The following Stats represent the new AT-ST II As well as tables comparing the old model with the new one. The final section gives a break down of total increased cost and production times.

AT-ST II

Craft: All-Terrain Scout Transport II version
Type: Medium walker (improved)
Scale: Walker
Length: 6.85 meters long, 9 meters tall
Skill: Walker operation: AT-ST
Crew: 2, skeleton: 1/+5 (due to dried brain)
Crew Skill: Missile weapons 5D, vehicle blasters 5D+1, walker operation 6D(upgraded)
Cargo Capacity: total of 50 kg (25 kg each under seats)
Cover: Full
Cost: Not available for sale; *prototype*
Move: 33; 99 km/h
Body Strength: 3D+2
Shields: 1D (starfighter scale)^
Maneuverability: 1D+2 (one less difficulty if on rocky or slick terrain and retractable foot spikes engaged)
Weapons: (Side weapons are modular and can be changed)



Model	Weapons	Armor	Other	Production Time	Cost
AT-ST	1 main; 2 Side	3d magnetic	none		
AT-ST II	1 main; optional side weapons	3d+2 non magnetic	Shields @ 1D*		

* See report for full details

Weapons systems

- | | |
|--|--|
| <p>1. (main weapon)A* (standard)
Twin Blaster Cannon
Fire Arc: Front
Crew: 1(co-pilot)
Skill: Vehicle blasters
Fire Control: 1D+2(improved)
Range: 50-200/1/2 km
Damage: 4D+1(improved)</p> | <p>crew: 1(co-pilot)
skill: Missile weapons; rockets
Range: 75-100/250/450
Damage: 5D+2 (speeder) (rockets can hold variable loads; flechet; etc.)</p> |
| <p>2. (Main Weapon)B* (Optional)
Twin Heavy Laser Cannon(May be fire linked)
Fire Arc: Front
crew: 1(co-pilot)
Skill: Vehicle blasters
Fire Control: 1D
range: 50-150/750/1.5 km
damage:6D+1(7D+1 when fire linked)</p> | <p>6 *Side Weapon
Heavy stun Cannon
Fire Arc: front
Crew: 1(co pilot)
skill: Vehicle blasters
fire control: 1D
Range 10-50/100/200
Damage: 4D(stun)</p> |
| <p>1. *Side weapon
Twin Light Blaster Cannon
Fire Arc: Front
Crew: 1(co-pilot)
Skill: Vehicle blasters
Fire Control: 1D+1(improved)
Range: 50-300/500/1 km
Damage: 2D+1(improved)</p> | <p>1 *Optional Bottom Carriage weapon
Auto blaster
Fire Arc: Front; rear
Crew: 1(co pilot)or automated
Skill: Vehicle blasters
Fire Control: 2d
Range 10-50/100/200
Damage 5d (character)</p> |
| <p>2. *Side weapon
Concussion Grenade Launcher
Fire Arc: Front
Crew: 1(co-pilot)
Skill: Missile weapons: grenade launcher
Fire Control: 1D
Range: 10-50/100/200
Damage: 3D</p> | <p>2 *Optional Bottom Carriage weapon
Floating Mines
Fire Arc: rear
Crew: 1(co pilot)or automated
Skill: Demolitions
Fire Control :0D
Range 1/2/3
Damage 6d (speeder) floating mines Ceiling height 2 meters</p> |
| <p>3. *Side Weapon
Anti infantry grenade mortar
Fire Arc: front
Crew: 1(co pilot)
Skill: Vehicle weapons; mortar
Fire control: 1D
Range: 50-100/200/300
Damage 5D character(other grenades can be used)</p> | <p>*Stun hatch
Fire Arc: Hatch only
Scale: character
Range: Contact with hatch
Damage: 2D-8d(variable stun or normal damage)</p> |
| <p>4. *Side Weapons
4 medium laser cannons(May be fire linked in groups of two)
Fire Arc: 2 left side(front); 2 right side(front)
Crew: 1(co-pilot)
skill: Vehicle blasters
range: 50-200/1km/2km
Damage: 5D+1(6D+1 when fire linked)*</p> | <p>*Mono-filament wires
Fire Arc: legs only
Scale: Walker
Range: Contact with legs
Damage: 4D</p> |
| <p>5. Side Weapon
32 rockets (in pod)
Fire Arc: front</p> | <p>*Large Fence cutter
Fire Arc: Feet only
Scale: Walker
Range: N/A foot contact
Damage 6D</p> |

Sub-Systems

Additional "extra's"

* The pilot can have these items installed into the AT-ST II for a price

***Optional sound system

type: modified sound rifle

Fire Arc: Front; cone

scale: Character

Range: 1-10/20/30

Damage 6d at 1-10, 5D to 10, 4D at 30

* Fires in a cone; see CSA source book for details

*** denotes that this is a specialty item, and is mounted under the main guns. This requires a difficult walker repair roll, and 5,000 to install.

*Can holder<don't ask> 25 credits very easy install

Refrigeration unit takes up 25kg of space, can be put under seat. Holds 6 cans of liquid and a sandwich. Cost 150 credits. Requires a moderate walker repair roll to install.

Live bait holder again, this can hold up to 10kg of water, plus some nice fish you caught, even includes a pocket fisherman and bait holder. Cost 50 credits moderate repair to install.

Real Bantha leather back chairs Comfy! But cost 1,250 per chair! Moderate repair roll

Fuzzy dice 5 credits. No repair roll necessary

Horn yes well add a loud horn for 25 credits. We can make it do a theme song for 10 more. Very easy repair roll needed.

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