

## COMBINED SYSTEMS AND DUAL CAPABILITY FLAIL OR TILLER | MEDIUM SIZE | ARMTRAC 200

Armtrac Ltd. | United Kingdom

### GENERAL DESCRIPTION

The *Armtrac 200* is a multi-tool system with both a demining and construction capability. Assembled around the customer's host vehicle, a 230 hp power pack at the rear drives the flail at the front for mine clearance. A tiller tool or roller system can be optionally attached. The power pack and working tools can be fitted to any prime mover.

In construction mode the *Armtrac 200* uses a four-in-one bucket to load trucks and level or grade roads. Forklift tines can be fitted, useful for site preparation and unloading equipment without additional machinery. This medium-weight multi-purpose system has a capability, according to the manufacturer, of clearing from 1,000 m<sup>2</sup>/h in heavy soil up to 2,000 m<sup>2</sup>/h in light soil.

The *Armtrac 200* is operator driven or can be remote controlled with a range of 500 m depending on the prime mover used. The cabin of the prime mover can be fitted with an escape hatch.

Vital parts of the machine are well protected, eg the cabin by 10 mm armour and 37 mm safety glass and the engine by 6 mm armour. Fire suppression systems are fitted to all *Armtracs* in the engine bay, hydraulic bay and cabin. The system operates automatically or manually.

The machine with the attachments can drive on a road or can be transported by road on a standard truck or by a C-130 aircraft.



ARMTRAC 200

## **CLEARANCE METHODOLOGY**

The system can be fitted to any vehicle capable of carrying the weight. Engine range should be at least 230 hp up to 400 hp depending on customer requirements. Power pack and working tools are connected in 20 minutes via the quick hitch system. Hoses from the power pack to the system run down the boom arm with quick release couplings.

The Armtrac 200's flail and tiller system has a 2 m clearance path, but a 2.5 m flail system can be fitted. The flail's 76 chains or 66 chisels of the tiller rotate at 350 rpm achieving a claimed clearance depth for both the flail and the tiller of 30 cm in all soil conditions. Depth control is provided by a ground skid with a manual light bar in the cabin.

The achieved performance of vegetation cutting in low vegetation is 3,500 m<sup>2</sup>/h, 2,700 m<sup>2</sup>/h in medium vegetation and 1,400 m<sup>2</sup>/h in high vegetation. Roller systems are also available. Performance speed using the roller system is 10 km/h.

## **MACHINES IN USE TO DATE**

One machine operates in Bangladesh and has been in service for a year.

## **ENGINE, FUEL AND OIL**

The power pack is equipped with a 176 hp diesel Iveco N76 engine. No special fuel or oil is required.

The fuel capacity is 300 litres and the hydraulic oil capacity is 190 litres. According to the manufacturer the fuel consumption is from 25 to 35 litres per hour during operations (depending on soil conditions).

## **FACTORY SUPPORT**

The manufacturer/supplier provides spare parts over a 12-month period. Most components of the machine are provided by companies operating worldwide and are standard off-the-shelf components. Armtrac also holds the whole range of spare parts in stock at any time.

Armtrac recommends a two-week training course for mechanics and drivers. Training can be provided in-country or at Armtrac's UK training school. With the purchase of two or more machines training is free of charge for six months.

Manuals and documentation are part of the purchase package and available in Arabic, English and French. The system is covered by a 12-month or 1,000 hours warranty and factory follow-up. With the purchase of two or more machines, Armtrac offers the services of an engineer and a service vehicle in-country for 12 months free of charge.

The cost of a set of working tools is based on customer requirements. Spare parts catalogue is available on memory stick or as paper hard copy.

### **MAINTENANCE AND SUPPORT**

The level of maintenance is as per manufacturer's recommendation. Maintenance schedules can be found in the manual as these can vary according to working conditions.

A one hour daily check and a two hour weekly service are recommended. Initial 50 hr and 300 hr services will be carried out by a qualified Armtrac service engineer.

A basic workshop complete with welder, generator and tools is adequate for on-site maintenance. Armtrac recommends operation and maintenance by two operator/mechanics.

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## **TESTS AND EVALUATIONS**

The Armtrac 200 underwent trials carried out by the Bangladeshi Army. These reports are available on request from Armtrac.

## **REPORTED LIMITATIONS AND STRENGTHS**

### **Limitations**

- > Difficult to operate with precision from greater distances in remote controlled mode, as applies to all remotely controlled machines.
- > The flail system creates huge dust clouds, as occurs with all flail systems in dry environments.
- > Very wet conditions reduce the forward speed.

### **Strengths**

- > Combines flail and tiller systems.
- > Versatility.
- > The system is air transportable and self-propelled.

**DIMENSIONAL DATA**

1. Length without attachment	Depends on the prime mover used
2. Length total	Depends on the prime mover used
3. Width without attachment	Depends on the prime mover used
4. Width total	3,600 mm flail
5. Clearing   Working width	3,000 mm flail
6. Height   Overall	1,700 mm flail
7. Mass   Basic vehicle	Depends on the prime mover used
8. Mass   Detachable unit(s)	5,300 kg
9. Mass   Overall	Depends on the prime mover used

**OPERATIONAL DATA**

10. Wheels   Tracks (description)	Depends on the prime mover used
11. Ground Bearing Pressure (kPa)	Depends on the prime mover used
12. Hill climbing ability (in degrees)	Depends on the prime mover used
13. Number of Chains   Chisels   Tools	Chains: 76   Chisels: 66
14. Beat pattern (hits per m <sup>2</sup> ) at different operating speeds	Not given
15. Length of Chains   Tools	1,000 mm
16. Diameter of flail drum	2,200 mm
17. Rotation Speed	350 rpm
18. Clearance   Working depth in varying terrain	15 cm to 30 cm
19. Working Speed (m <sup>2</sup> /h)	
> Light Soil   Medium Vegetation	2,000 m <sup>2</sup> /h
> Medium Soil   Medium Vegetation	1,600 m <sup>2</sup> /h
> Heavy Soil   Dense Vegetation	1,000 m <sup>2</sup> /h
20. Control of Clearance   Working depth	Ground skid with manual light bar in cabin
21. Additional attachable working tools	Tiller
22. Armour	6 mm ARMOX
23. Remote controlled	
> greatest distance	500 m
24. Transportation	
> short distances	
> long distances	
> sea transport	
> air transport	

## SYSTEM STATUS AND DEPLOYMENT

25. Machines in use	1
26. Other types	Armtrac 75 Armtrac 75T, Armtrac 100, Armtrac 400, Armtrac sifter and Armtrac trimmer
27. Location of use	Bangladesh
28. Totally cleared so far (m <sup>2</sup> )	Unknown

## ENGINE | FUEL | OIL

29. Engine	Powerpack engine - Iveco N67
30. Engine power at the flywheel	171 kw
31. Sufficient power supplied to working tool	Not given
32. Fuel capacity	300 l
33. Fuel consumption	25-35 l/h
34. Separate engine for working unit	
35. Cooling system	Water cooled
36. Oil capacity (both engines)	25 l
37. Hydraulic oil capacity (both engines)	190 l

## COSTS

38. Cost of system	On request
39. Other costs	On request
> training	On request
> spare part set chains   belts	On request
40. Availability for hire	On request

## OTHER

41. Operator comfort	N/A
42. Air conditioning	N/A