# **SEMI-TRACTORS**

It should be noted that the a lot of heavy (and in some cases, medium and even light) trucks of many countries have semi-tractor variants of those vehicles. For most of these, I have only very sketchy details and they are not included here. In a similar vein, I have not been able to find much in the way of civilian semi-tractors (or civilian heavy trucks and equipment in general), and they are not included here. Perhaps in the future...

**Australian Semi-Tractors** 

**Austrian Semi-Tractors** 

**British Semi-Tractors** 

**Chinese Semi-Tractors** 

**Czech Semi-Tractors** 

**Dutch Semi-Tractors** 

**French Semi-Tractors** 

**German Semi-Tractors** 

**Greek Semi-Tractors** 

**Italian Semi-Tractors** 

**Japanese Semi-Tractors** 

**Russian Semi-Tractors** 

**South Korean Semi-Tractors** 

**Spanish Semi-Tractors** 

# **Swedish Semi-Tractors**

**US Semi-Tractors** 

**Yugoslavian Semi-Tractors** 

#### Western Star 6900 XD HET

Notes: Western Star's 6900 XD HET (Heavy Equipment Transporter) is a semi-tractor based upon Western Star's heavy off-road civilian truck range. It is a conventional-layout semi-tractor, resembling many civilian designs, with the engine up front under a hood and of all-steel construction. The standard cab layout is a driver and two passengers, but versions exist which allow four extra passengers or a sleeper cab. Transmissions are normally manual, but automatic transmission is available. The suspension is 6x6 with single tires up front and double tires on the rear two axles; the tires have a central tire inflation system. The truck has a spare tire at the rear of the cab as well as two recovery winches with a capacity of 25 tons each.

Western Star was acquired by Freightliner (a part of Daimler/Chrysler) in 2000. Production of Western Star's trucks was transferred to Freightliner's Oregon plant in 2002, though this truck is still used only by Australia.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
6900 XD HET	\$15,832	D, A	110 tons; 590 kg	17.24 tons	1+2	5	Headlights	Open
6900 XD HET	\$17,196	D, A	110 tons; 590 kg	18.35 tons	1+6 or Sleeper Cab	6	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
6900 XD HET (3-Man)	224/56	50/13	925	152	Stnd	W(3)	HF1 HS1 HR1
6900 XD HET (7-Man or Sleeper Cab)	214/54	50/13	925	152	Stnd	W(3)	HF1 HS1 HR1

#### **OAF 34.440 VFA**

Notes: Designed primarily to tow tank transporter trailers, the OAF 34.440 VFA was introduced to Austrian Army service in 1983 and not exported. It is apparently no longer in service; it does not appear in newer books about the subject nor can I find a reference to it in any other publications. I do not know, however, when it went out of service or if the trucks are being held in a reserve role.

The large cab has seating for the driver, one other crewmember, and four passengers (normally the crew of the tank being transported). Behind the cab is a small crane with a capacity of 3.15 tons when extended to 2.5 meters and 970 kg at its extension limit of 7.7 meters. This crane is designed to allow the loading of alternate cargoes onto semi-trailers. At the center of the rear of the truck (behind the fifth wheel) there is a winch with a capacity of 8 tons and 60 meters of cable; while this can also be used to pull cargoes onto trailers, its primary use is to help stabilize and guide an armored vehicle being placed on a transportation trailer. In addition, an elevated platform in the rear of the truck has a pair of 20-toncapacity winches with 50 meters of cable; these are primarily used for vehicle loading, and the platform also has an operator's position. Along with these winches, there is an auxiliary winch with a capacity of 600 kg, used to deploy and guide the two heavy winches, and controlled from the same platform. The 8-ton winch, the auxiliary winch, and the crane are powered by the engine of the truck, while the main winches are powered by a hydraulic pump which is in turn powered by the truck's engine. Two hydraulic outriggers may be extended, one on each side of the truck, to stabilize the vehicle when using the crane, the winch, or loading the trailers it tows. The OAF 34.440 VFA has an 8x8 suspension, but was not designed specifically for off-road use (though it performs reasonably well in such a manner). The transmission is manual.

The OAF 34.440 VFA was designed specifically for towing the Goldhofer TUAH 8 55/80 tank transporter semi-trailer, but it is also capable of towing other types of semi-trailers which are equipped with a gooseneck.

Price	Fuel Type	Load	Veh Wt			Night Vision	Radiological
\$13,922	D, A	(Tow) 80 tons; 575 kg	17 tons	1+5	4	Headlights	Open

Tr Mov	Com Mov	Com Mov Fuel Cap		Config	Susp	Armor
202/41	45/10	600	162	Stnd	W(4)	HF1 HS1 HR1

# Steyr 1491.330.S34

Notes: This is a military-grade semi-tractor based on a Steyr-built civilian truck. Most of the

components of the semi-tractor are identical to the Steyr 1491M truck, though the body and much of the chassis are of course different. The 1491.300.S34 is designed to pull weights of up to 85 tons, and it has a 6x6 suspension with single tires on the front axle and double tires on the two rear axles. The cab is made from steel (as is most of the truck), and tilts forward for access to the engine and transmission. The roof of the cab has a hatch with a mount for a medium or light machinegun or similar-weight weapon. The frame of the truck is a ladder-type construction with additional reinforcement for the fifth wheel and the winches. The winches are mounted behind the cab and each have a capacity of 20 tons, and are generally used to assist in loading and off-loading vehicles or cargo. The 1491.300. S34 is capable of pulling virtually any semi-trailer within its weight range.

A version of this truck, known as the Steyr 3891, has larger tires, but is otherwise identical. This version is used by Saudi Arabia. Another derivative of the 1491.330.S34 is the Model 37M42/S38; it has a higher-horsepower engine with more torque and can tow somewhat higher weights. Its two winches have a capacity of 25 tons each, and is uses the same larger tires as the Model 3891.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
1491.330. S34	\$9,612	D, A	(Tow) 85 tons; 500 kg	13 tons	1+2	4	Headlights	Open
37M42/ S38	\$10,046	D, A	(Tow) 90 tons; 500 kg	15 tons	1+2	4	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
1491.330. S34	204/41	45/10	380	101	Stnd	W(3)	HF1 HS1 HR1
37M42/ \$38	212/43	50/10	500	123	Stnd	W(3)	HF1 HS1 HR1

# Steyr 40M42

Notes: Also known as the 40.423 DFAT, this semi-tractor is powerful truck which has a maximum towing capacity of 110 tons, though safety regulations normally limit towing to 90 tons. It is similar in construction to the 1491.330.S34 above, with an all-steel construction, ladder frame with reinforcement at the fifth wheel, and a roof hatch with a mount for a medium or light machinegun or similar-weight weapon. The suspension is 6x6 with single tires up front and twin tires on the rear axles. A spare tire is

also carried on a frame at the rear of the cab. As far as I know, this truck is not equipped with winches.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$13,924	D, A	(Tow) 110 tons; 560 kg	16.2 tons	1+2	4	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
202/41	45/10	800	124	Stnd	W(3)	HF1 HS1 HR1

# Steyr 40M60 FX-2000

Notes: This semi-tractor is based on the MAN FX-2000 series of high-mobility trucks. It is of all-steel construction, with a high-strength reinforced frame with extra reinforcement for the fifth wheel and winches; there are two winches, with a capacity of 25 tons each and 50 meters of 24-millimeter cable. The cab has two rows of seats; the back seat is a simple bench with a stowage bin underneath, while the driver and commander sit on air-suspended seats. Above the commander's seat is a hatch, with a mount for a medium or light machinegun or similar-weight weapon. The standard suspension is 6x6 with single tire sets, though there is an option for double tires on the rear. The truck has antilock brakes and power steering, though the transmission is manual.

Price	Fuel Type	Load	Veh Wt	Crew Mnt		Night Vision	Radiological
\$15,472	D, A	(Tow) 110 tons; 680 kg	15.4 tons	1+5	5	Headlights	Open

Tr Mov	Com Mov Fuel Cap		Fuel Cons	Config	Susp	Armor
270/68	65/16	600	177	Stnd	W(3)	HF1 HS1 HR1

#### **Scammell Contractor**

Notes: This very old design, introduced by Scammell in 1964 and produced for nearly 15 years, was at one time used by the British, Australians, and especially various places in the Middle East and Africa, where they were apparently bought in droves (compared to other trucks of this sort). British Contractors have been for the most part scrapped or placed in museums; the Australians have some in reserve, but also have for the most part been scrapped in put in museums; Middle Eastern Contractors have largely been replaced with newer semi-tractors and the Contractors sold off to Africa. Africa is, in fact, the one place where surviving Contractors can be found in active service, though not in the sort of numbers that were once present on that continent, and with most of them being in ill-repair.

Though there are several variants of the Contractor, most of their components are either identical or almost identical. They are all of conventional design, with an engine compartment at the front under a hood, a cab in the center, and the fifth wheel at the rear. The standard cab has space for three crewmembers, but an optional cab has four doors and puts a bench seat behind the front seats for four passengers. Behind the cab is either a Scammell winch with a capacity of 15.24 tons or a Darlington winch with a capacity of 22.68 tons. Both are equipped with 131 meters of cable, and are equipped with an interlock connected to a winch brake and cutout device to prevent damage to the winch from overloading. Other options include an air conditioner, an engine brake, and towing pintles for towing standard trailers. The Contractors are 6x4 vehicles but have reasonable off-road performance. The Contractor was introduced with towing tank transporter semi-trailers in mind, but has since been used to tow virtually anything and everything.

The CT15 C33F47 model is the standard version, equipped with a 335-horsepower engine. The transmission is "semi-automatic," having power-assisted shifting and provision for automatic shifting under some circumstances. The CT19 C33X467 variant is modified to allow the towing of drawbar trailers instead of semi-trailers, and has more torque allowing for the towing of heavier loads. The CT11 C33F38HD variant is used to tow lighter loads; it uses the same engine, but has less torque. The CT11 C33X48HD variant is the same, but is used to tow drawbar-equipped trailers. Both of these use a standard transmission, but with an incredible 15 forward and three reverse gears. The two have identical towing capacities and performance, and are otherwise identical for game purposes. The CT24 C33X24 version can pull drawbar-equipped trailers. It too has the semi-automatic transmission, and has a very high load capacity.

The CT24 C42X52 variant, though appearing basically identical to the other versions of the Contractor, uses a 425-horsepower turbocharged engine, and an automatic transmission with a torque converter, locking clutch, and a hydraulic retarder. It too has a very high towing capacity, but is designed only for towing drawbar-equipped trailers. A newer design, it is lighter than the older Contractors, yet more capable.

The last variant of the Contractor was the S24 CA45; this model was introduced in 1981, and is used exclusively in the Middle East. It has a number of improvements over the earlier Contractors, including more powerful turbocharged engines, a choice of manual, semiautomatic, and automatic transmissions, more powerful brakes, and a higher off-road-type suspension. This model of the

Contractor uses twin 20-ton capacity winches mounted behind the cab. Despite being of a similar design and appearance to the earlier Contractors, the S24 CA45 is physically a much larger vehicle.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
CT15 C33F47 (Standard)	\$10,326	D, A	(Tow) 78.3 tons; 480 kg	12.57 tons	1+2	4	Headlights	Open
CT15 C33F47 (Long Cab)	\$11,290	D, A	(Tow) 78.3 tons; 600 kg	12.73 tons	1+5	4	Headlights	Open
CT19 C33X47 (Standard)	\$10,716	D, A	(Tow) 88.75 tons; 480 kg	12.57 tons	1+2	4	Headlights	Open
CT19 C33X47 (Long Cab)	\$11,716	D, A	(Tow) 88.75 tons; 600 kg	12.73 tons	1+5	4	Headlights	Open
CT11 C33F38HD (Standard)	\$9,723	D, A	(Tow) 69.15 tons; 480 kg	10.93 tons	1+2	3	Headlights	Open
CT11 C33F38HD (Long Cab)	\$10,631	D, A	(Tow) 69.15 tons; 480 kg	11.07 tons	1+5	3	Headlights	Open
CT24 C33X52 (Standard)	\$11,108	D, A	(Tow) 102 tons; 480 kg	13.4 tons	1+2	4	Headlights	Open

CT24 C33X52 (Long Cab)	\$12,108	D, A	(Tow) 102 tons; 600 kg	13.57 tons	1+5	4	Headlights	Open
CT24 C42X52 (Standard)	\$11,526	D, A	(Tow) 102 tons; 545 kg	12.48 tons	1+2	3	Headlights	Open
CT24 C42X52 (Long Cab)	\$12,602	D, A	(Tow) 102 tons; 680 kg	12.64 tons	1+5	4	Headlights	Open
S24 CA45 (400 hp, Standard)	\$14,626	D, A	(Tow) 100 tons; 525 kg	13.62 tons	1+2	4	Headlights	Open
S24 CA45 (400 hp, Long Cab)	\$15,908	D, A	(Tow) 100 tons; 655 kg	14.2 tons	1+5	5	Headlights	Open
S24 CA45 (425 hp, Standard)	\$14,646	D, A	(Tow) 100 tons; 540 kg	13.64 tons	1+2	5	Headlights	Open
S24 CA45 (425 hp, Long Cab)	\$15,908	D, A	(Tow) 100 tons; 675 kg	14.22 tons	1+5	5	Headlights	Open
S24 CA45 (500 hp, Standard)	\$15,046	D, A	(Tow) 100 tons; 585 kg	13.76 tons	1+2	5	Headlights	Open
S24 CA45 (500 hp, Long Cab)	\$16,308	D, A	(Tow) 100 tons; 730 kg	14.35 tons	1+5	5	Headlights	Open

S24 CA45 (600 hp, Standard)	\$15,846	D, A	(Tow) 100 tons; 700 kg	13.95 tons	1+2	5	Headlights	Open
S24 CA45 (600 hp, Long Cab)		D, A	(Tow) 100 tons; 875 kg	14.55 tons	1+5	5	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
CT15 C33F47 (Standard)	206/31	52/8	636	99	Stnd	W(3)	HF1 HS1 HR1
CT15 C33F47 (Long Cab)	204/31	51/8	636	99	Stnd	W(3)	HF1 HS1 HR1
CT19 C33X47 (Standard)	206/31	52/8	636	99	Stnd	W(3)	HF1 HS1 HR1
CT19 C33X47 (Long Cab)	204/31	51/8	636	99	Stnd	W(3)	HF1 HS1 HR1
CT11 C33F38HD (Standard)	228/34	57/9	636	99	Stnd	W(3)	HF1 HS1 HR1
CT11 C33F38HD (Long Cab)	226/34	57/9	636	99	Stnd	W(3)	HF1 HS1 HR1
CT24 C33X52 (Standard)	198/30	50/8	636	99	Stnd	W(3)	HF1 HS1 HR1
CT24 C33X52 (Long Cab)	196/30	49/8	636	99	Stnd	W(3)	HF1 HS1 HR1
CT24 C42X52 (Standard)	246/37	62/10	636	157	Stnd	W(3)	HF1 HS1 HR1
CT24 C42X52 (Long Cab)	244/37	61/10	636	157	Stnd	W(3)	HF1 HS1 HR1

S24 CA45 (400 hp, Standard)	220/55	55/14	900	147	Stnd	W(3)	HF1 HS1 HR1
S24 CA45 (400 hp, Long Cab)	214/54	54/14	900	147	Stnd	W(3)	HF1 HS1 HR1
S24 CA45 (425 hp, Standard)	230/58	58/15	900	157	Stnd	W(3)	HF1 HS1 HR1
S24 CA45 (425 hp, Long Cab)	224/57	56/15	900	157	Stnd	W(3)	HF1 HS1 HR1
S24 CA45 (500 hp, Standard)	256/65	64/17	900	185	Stnd	W(3)	HF1 HS1 HR1
S24 CA45 (500 hp, Long Cab)	249/63	63/16	900	185	Stnd	W(3)	HF1 HS1 HR1
S24 CA45 (600 hp, Standard)	292/73	73/19	900	222	Stnd	W(3)	HF1 HS1 HR1
S24 CA45 (600 hp, Long Cab)	284/71	71/18	900	222	Stnd	W(3)	HF1 HS1 HR1

# **Thornycraft Antar Mk 3**

Notes: This semi-tractor is an updated version of a design originally conceived in the late 1940s for towing tank transporter semi-trailers. It was known as the FV-12004 in British service, but most British Antars have long since been scrapped, sent to museums, or bought by collectors, despite the fact that they were overhauled extensively in mid-1980s. India, Pakistan, Jordan, and Turkey are believed to still be operating a few Antars, but South Africa's Antars have had largely the same fate as British Antars. The design of the Antar is conventional, with an engine compartment at the front under a hood, a cab in the center, a small cargo platform to the rear of the cab (normally occupied by a 20-toncapacity winch, and able to mount bows and a canvas cover), and the fifth wheel to the rear. Towing capacity is adequate for lighter tanks, but the newer tanks like the Challenger are a bit too much for the Antar, and in some countries still using it, the Antar has been relegated to towing cargo or other types of semi-trailers. The cab is considered a bit cramped and has no provision for crew equipment (it is normally stowed on the winch platform or strapped to the bumpers). The suspension is 6x4 (the middle axle is unpowered), and the Antar has mediocre off-road performance despite the large, heavy-lugged tires. The Antar is a heavy vehicle for its type, and the engine is not too powerful compared with modern engines (though it does have a supercharger); in addition, the transmission is manual (though pneumatically-assisted). The steering is power-assisted.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$15,260	D, A	(Tow) 63.4 tons; 480 kg	21.9 tons	1+2	5	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
148/29	37/7	910	122	Stnd	W(3)	HF1 HS1 HR1

# **Unipower MH-6660 Semi-Tractor**

Notes: Initially designed in two versions (an 8x8 model and a 6x6), the 6x6 model was eventually approved for production by Alvis; not for Britain, but for Oman. It was acquired in 1995 to carry Oman's new Challenger 2 tanks. The American-made Cummings diesel is coupled to manual transmission. The axles have single sand tires, with differential locks, and has independent suspension for all three axles. The engine is located behind the cab, and the cab may have two rows of seats or be a sleeper cab. (Omani models have twin rows of seats.) The interior is considered to be very comfortable, and also has a suspension of its own to isolate it from the bumps absorbed by the frame and suspension. Behind the engine compartment are a pair of 25-ton-capacity winches.

Twilight 2000 Notes: This truck does not exist in the Twilight 2000 timeline.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$14,836	D, A	(Tow) 130 tons; 600 kg	18.2 tons	1+6	6	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
240/60	55/13	900	222	Stnd	W(3)	HF1 HS1 HR1

# Unipower Commander

Notes: Formerly a Scammell design, this truck was designed in 1976 to carry the Challenger 1 tank, at that time still in testing. (Scammell was acquired by Alvis in 1988.) They were later extensively refurbished in 1988, refurbished again in 2001, and still serve the British Army today. In 1999, the Oshkosh 1070F was selected to replace the Commander with deliveries beginning in 2003, but

acquisition has been slow due to budget problems.

The Commander is designed specifically to transport tank-transporter semi-trailers, but is often used to pull other types of trailers. The front end has the engine up front under a hood, with the cab center and the fifth wheel at the rear. The cab is insulated against noise and the cab is heated with an additional heating element for the windshield. There are two front seats up front with a bench seat behind it. This bench seat may be split to form two bunks, one above the other. The chassis is of high-strength reinforced steel. The suspension is 6x4 but performs reasonably well off-road. The Commander is equipped with a heavy-duty, 20.3-ton-capacity winch with 110 meters of 26mm rope. The winch controls are behind the cab, but in a weatherproof enclosure.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$18,782	D, A	(Tow) 104 tons; 625 kg	19.92 tons	1+4	6	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
232/46	55/10	817	231	Stnd	W(3)	HF1 HS1 HR1

#### **HY-473A**

Notes: The HT-473A semi-tractor is intended primarily for the towing of medium tank transporter trailers (mostly the HY-962J), though it may also tow other types of semi-trailers (and in fact, the HY-472 and HY-472A are civilian versions of this truck that do tow other types of trailers, and are essentially identical to the HY-473A). It uses a forward control cab that tilts for access to the engine and transmission, and which has cab seating for three up front with another four able to sit on the bunk space in the rear. Behind the cab are two winches to aid in loading and unloading vehicles. The suspension is 6x6 with single sites on the front and double tires sets on the rear two axles. The suspension is primarily designed for road travel, and has limited off-road performance.

The HY-473A is an improved version of an earlier model, the HY-473. Most of the differences between the HY-473A and the HY-473 are in the transmission; the HY-473 has less forward gears and less torque. In addition, the fifth wheel of the HY-473 is not as robust as the HY-473A. These two factors mean that the HY-473 has greater towing limits than the HY-473A model. The HY-473 also uses a non-turbocharged engine and has some differences in dimensions. The HY-473 is no longer in production, but is still used by the PLA.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
HY- 473A	\$11,052	D, A	(Tow) 75 tons; 500 kg	12.5 tons	1+6	3	Night Vision	Open
HY-473	\$9,922	D, A	(Tow) 62 tons; 500 kg	12.5 tons	1+6	4	Night Vision	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
HY- 473A	216/43	50/10	490	131	Stnd	W(3)	HF1 HS1 HR1
HY-473	216/43	50/10	490	105	Stnd	W(3)	HF1 HS1 HR1

#### **HY-480**

Notes: This is an 8x8 semi-tractor with an off-road suspension, designed for the towing of a large variety of semi-trailers. It uses a tipper forward-control cab, with seating for the driver and a crewmember. Behind the seats may be installed a bunk or a seat for four passengers; the bunk and the seat may be interchanged as necessary. Though possibly no longer in production (The HY-480 pre-

dates the HY-473A, but is a later model than the HY-473), but it is believed to still be in service with the PLA.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$12,000	D, A	(Tow) 77 tons; 600 kg	13.9 tons	1+5	5	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
256/64	64/16	550	148	Stnd	W(4)	HF1 HS1 HR1

# **HY-4390**

Notes: This semi-tractor uses an 8x8 heavy-duty suspension (with single tires on the front two axles and doubles on the rear two) and all-steel construction. The cab tilts forward for engine and transmission access, and contains seating up front for a driver and passenger; the rear contains either a bunk or seating for four more passengers. It is not known whether this truck is still being produced, but it is still in service with the PLA.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$14,198	D, A	(Tow) 100 tons; 595 kg	15 tons	1+5	5	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
250/63	60/16	585	194	Stnd	W(4)	HF1 HS1 HR1

#### Tatra T-816 6VWN9T 43.610

Notes: This semi-tractor is related to the T-816 LIWA series of heavy trucks, including the off-road suspension with swing-axle bogies and independent suspension for the wheels; performance off-road is therefore quite good. It was designed to move tank transporter trailers and other semi-trailers over rough ground, and to specifically tow semi-trailers with off-road suspensions. The vehicle has a forward control cab with seating for eight and two sets of doors for entry. The cab tilts forward for access to the engine and transmission and has a hatch in the roof with a mount for a light or medium weapon. The fifth wheel has its own supplemental suspension which keeps it at roughly the same level regardless of how the terrain is bouncing the primary suspension or the truck around. The powerful engine is coupled to an automatic transmission and has a torque converter with two power takeoffs. The drive is 8x8 with permanent all-wheel drive, with twin tires for all wheels and a central tire inflation system. The tires in the front are, however, somewhat smaller than those of the two rear axles. The truck is provided with two winches with a capacity of 28 tons each to assist in loading vehicles or cargo; each one has 70 meters of 26mm cable. There is also an auxiliary winch with a capacity of 2 tons, primarily used as a guide or stabilizing mechanism, and with 150 meters of 8mm cable. Antilock braking is optional, as is exhaust filtering, electronic central tire inflation system controls, and a governor for the engine.

In November of 2001, the US company SDC International purchased a 92% stake in Tatra Vehicles, effectively making Tatra an American company. Tatra's vehicles, however, are still produced in the Czech Republic, and primarily sold outside of North America.

Twilight 2000 Notes: Needless to say, Tatra still belongs to Czechoslovakia in the Twilight 2000 timeline. However, the T-816 6VWN9T 43.610 does not exist in the Twilight 2000 timeline.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$17,758	D, A	(Tow) 115 tons; 825 kg	20.5 tons	1+7	6	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
276/70	65/32	1200	303	Stnd	W(4)	HF1 HS1 HR1

#### FTF MS-4050

Notes: Though for the most part long replaced by newer German designs, this semi-tractor was for over 10 years the prime mover of tank transporter trailers for the Dutch Army. The MS-4050 is essentially a modified Mack design (FTF is one of the largest license-producers of Mack trucks in Europe), with strengthened construction, stronger steel used in the chassis and frame than is normal for civilian designs, and otherwise modified for military use. The cab is a forward-control design, but it is not a tipper, since the engine is actually to the rear of the cab. In addition, the rear of the cab has a winch mounted, either one winch with a 45.36-ton capacity of twin winches with 20-ton capacities each. The spare tire is mounted under the frame of the chassis. Cab seating is limited, since the two seats used have independent suspension, and there is a space behind them for crew equipment storage. This truck was used only by the Dutch Army, and only 39 were produced, with most having been scrapped or held in reserve by now.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$12,858	D, A	(Tow) 94.5 tons; 450 kg	15.5 tons	1+1	4	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
228/34	57/9	450	140	Stnd	W(3)	HF1 HS1 HR1

#### **Berliet TBO-15 M3**

Notes: Formerly one of the most common semi-tractors for the towing of tank transporters in French service, this truck has primarily been relegated to a reserve role in French service or scrapped entirely. It is not believed to have been exported. It is an old truck, with the first ones having been delivered to the French Army in 1961, and the last one built about 10 years later. The TBO-15 M3 is of conventional design for such a semi-tractor, with the engine at the front under a hood, the cab center, and the fifth wheel at the rear. The heated cab has seating for three and a rack behind the seats for the crew's personal gear. Behind the cab are a spare tire and a pair of large-diameter-drum winches, each with a 15-ton capacity and 90 meters of cable as well as a brake and holding system. The winches are normally lead out to the rear, but can be led out to the front if self-recovery becomes necessary. The TBO-15 M3 also has tow hooks at the front and rear of the vehicle, and it can tow trailer types other than semi-trailers if required. The suspension, though it has large tires and looks beefy, is a 6x4 design (with the center axle being unpowered) and has only so-so off-road performance. The transmission is manual and pneumatically-assisted, but is said to always have been a bit balky, even when the trucks were new.

From 1973-74, an improved model, the TBO-310, was built in small numbers. This version has a more powerful engine with more torque. Another even more powerful version, the TBO-15A, was also designed and prototypes built, but it never went into production. By 1973, the design was already showing its age and the French Army was moving on to more modern semi-tractors.

Twilight 2000 Notes: Like most vehicles of any sort that were still in running condition, the surviving TBO-15 M3s and TBO-310s were pulled out of storage and reserve roles and returned to front-line service.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
TBO- 15 M3	\$12,234	D, A	(Tow) 60 tons; 340 kg	18.45 tons	1+2	5	Headlights	Open
TBO- 310	\$12,434	D, A	(Tow) 64.5 tons; 365 kg	19 tons	1+2	5	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
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TBO-15 M3	140/28	30/8	500	75	Stnd	W(3)	HF1 HS1 HR1
TBO-310	148/29	35/8	500	85	Stnd	W(3)	HF1 HS1 HR1

#### Renault R-390

Notes: This semi-tractor is basically a civilian truck given the minimum amount of changes to adapt it to a military role. It is generally used with the STA-43 tank transporter semi-trailer, but can be used with other NATO-standard semi-trailers. It is primarily meant for road use and has limited off-road capabilities, and the 6x4 suspension is quite low. The tires (single on the front axle, and dual on the rear two axles) are also a bit small for off-road use. The cab is of the forward control type, tilting to access the engine and transmission. The cab has seats for the driver and two passengers, with a bunk at the rear of the cab where a third passenger may sit. The cab has a heater and is also soundproofed. A wide variety of options may be added, including a 15-ton-capacity winch with 90 meters of cable, fog lamps, a spotlight, antilock brakes, and even creature comforts such as air conditioning, armrests, a dividing curtain for the bunk area, and a conventional civilian radio.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$10,350	D, A	(Tow) 70.6 tons; 395 kg	10.3 tons	1+4	3	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
266/40	60/9	650	144	Stnd	W(3)	HF1 HS1 HR1

# Renault TRM 340.34T

Notes: This variant of the TRM 340.34 cargo truck series is designed for both off- and on-road use, and is equipped with a heavy-duty 6x6 suspension using single tires on the front axle and duals on the two rear axles. The layout is conventional, with a forward control cab (tilting for maintenance), and the fifth wheel at the rear. Options abound, including a sleeper cab, a heated cab, an engine pre-heater, heavy-duty air filtration, a vertical exhaust stack (normally, the truck exhausts to the rear), a power takeoff for the transfer case, EMP protection, and up to two winches with capacities of 15 tons each.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
TRM 340.34T (Standard)	\$11,272	D, A	(Tow) 100 tons); 340 kg	9.91 tons	1+2	3	Headlights	Open
TRM 340.34T (Sleeper Cab)	\$11,762	D, A	(Tow) 100 tons; 395 kg	10.18 tons	1+3	3	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
TRM 340.34T (Standard)	244/61	55/16	250	124	Stnd	W(3)	HF1 HS1 HR1
TRM 340.34T (Sleeper Cab)	240/60	55/13	250	124	Stnd	W(3)	HF1 HS1 HR1

#### **Renault TRM 700-100**

Notes: This semi-tractor was introduced in 1987 specifically for use with semi-trailers carrying the thennew Leclerc tank. The TRM-700-100 appears to be based on the TRM 10000, using the same hard-topped four-door tipper cab, but enlarged to carry one more person (with a total of two persons in the rear seating area). The chassis, frame, and fifth wheel are specially reinforced to handle heavy loads at high travel speeds, though the TRM 700-100 has only average off-road performance. The suspension is 6x6, with single front tires and dual tires on the two rear axles. The 700-horsepower engine is coupled to an automatic transmission, and the truck has power steering. The TRM 700-100 is equipped with a pair of 18.35-ton-capacity winches behind the cab.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$15,756	D, A	(Tow) 106 tons; 710 kg	16.35 tons	1+4	5	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
292/58	65/13	1000	260	Stnd	W(3)	HF1 HS1 HR1

#### Renault TRM 12000T

Notes: This vehicle is a former Berliet design which was known as the TBH 280 when manufactured by Berliet. It is a variant of the Renault 12000 6x6 cargo truck (formerly known as the Berliet GBH). The TRM 12000T is designed for both road and cross-country use, and variants are also used by civilian companies. The TRM 12000T is primarily meant for towing tank transporter trailers, but can also tow other semi-trailers. It is not used by France, but is common in many parts of the Middle East, especially Morocco, Qatar, and the United Arab Emirates.

Despite the light weight of this semi-tractor, construction is quite strong, with considerable cross-bracing of the frame and chassis. The layout is conventional, and the rear axles have both inter-wheel and inter-axle differential locks. The rear axles and wheels are assembled into a common bogie with considerable flex, allowing greater off-road capability. The TRM 12000T is generally equipped with either a single winch with a 15-ton capacity and 90 meters of cable, or two such winches. Options for the TRM 12000T abound, including a laminated shatterproof windshield (one-piece of two sections), an air intake extended to the roof level (instead of the normal hood level), sand filtration for the air intake, radiator, fans, and engine parts (normal for those sold to Middle Eastern and African armies), a built-in toolbox, a roof hatch reinforced for a weapon mount, an exterior outlet socket, and a spotlight. Fuel tankage is slightly unusual; like many such trucks, there are two tanks, but one of the TRM 12000T's tanks is larger than the other, holding 250 liters while the other holds 200 liters of the total fuel capacity.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$10,322	D, A	(Tow) 53 tons; 355 kg	11.31 tons	1+2	3	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
248/63	55/16	450	103	Stnd	W(3)	HF1 HS1 HR1

#### **FAUN FS 42.75/42**

Notes: Intended to replace the former West German Army's FAUN SLT 50-2 semi-tractor, the FS 42.75/42 ended up instead only partially replacing its progenitor, with the SLT 50-2 being retained and upgraded for future use and possible sales. The layout is largely similar to the SLT 50-2, with a forward control cab constructed partially from steel and partially from synthetics and plastics. The driver's seat is adjustable, with a separate front bench seat for three passengers. The roof has a hatch with a weapon mount, and behind the front seats there is a space for equipment stowage. All cab walls are double-skinned (for soundproofing and insulation, not for armoring), and the glass is laminated to avoid shattering. The truck has two heaters; one is powered by the engine, and the other is self-powered (using the truck's fuel) and is used when the engine is off. Behind the cab are two winches, each with an 18.6-ton capacity. The suspension is 8x6 and uses single, large tires for each set of wheels. Both front axles are steerable, but the second row of wheels are not powered. (An 8x8 version is also available, however). The suspension is high and cross-country rated.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$14,484	D, A	(Tow) 95 tons; 520 kg	19.7 tons	1+3	6	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
206/51	50/13	800 liters	155	Stnd	W(4)	HF1 HS1 HR1

#### **FAUN HZ 40.45**

Notes: This semi-tractor is a military adaptation of a civilian semi-tractor, the FAUN 2144.93 Version B. It is of conventional layout, with the engine up front, a center cab, and the rear area with the fifth wheel. The engine compartment is largely of steel, but the hood is made from reinforced glass fiber composites. The cab is of steel, with three doors for access to two rows of seats. The front row has three single seats; the rear row is a bench seat with the center portion foldable to give a standing area for access to a roof hatch. The hatch has a weapon mount as an option. The truck has a 6x6 suspension designed primarily for road use but with some off-road capability. Since it also has a tow hook at the rear, it may also tow standard trailers in addition to semi-trailers. A plethora of optional equipment is available, including twin 18-ton-capacity winches with 55 meters of 24mm cable, differential locks for the rear axles, snow chains, a rack for up to four jerry cans, two hand fire extinguishers, an air compressor, and special rails to allow the connection of a standard trailer to the fifth wheel. The HZ 40.45 was primarily designed as a tank transporter, but with the march of time and the advent of heavier tanks, it has been dropped from German service in favor of trucks capable of towing heavier loads, and today is used primarily by Chad, Libya, and Turkey.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$14,798	D, A	(Tow) 55 tons; 520 kg	19 tons	1+6	6	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
212/42	50/10	900	155	Stnd	W(3)	HF1 HS1 HR1

# **FAUN SLT 50-2**

Notes: Though it was supposed to be replaced by the FS 42.75/42, the SLT 50-2 continues to serve on with the German Army in a supplemental role as a tank transporter, and in towing other types of semi-trailers. Also known to the Germans as the Elefant, the SLT 50-2 was originally designed starting in 1965 to tow the abortive MBT-70 tank, but was kept when that project was cancelled for other duties. Despite its age, the SLT 50-2 remains capable of towing any tank in German service.

The cab of the SLT 50-2 is of the forward control tipper type, constructed of steel and glass fiber composites. The suspension is 8x8 and steerable on the front two axles. The suspension is quite capable off-road, with the front and rear sets of axles being capable of independent flexing. The axles have locking differentials. The truck has airbrakes and is capable of providing compression to a trailer equipped with airbrakes. Sensors ensure smooth and equal braking regardless of speed or loading. At the rear of the cab are twin winches with a capacity of 18.6 tons each, and equipped with 43 meters of 28mm rope each. The truck also carries a spare tire, with a small hand winch to help the crew handle the tire.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$14,472	D, A	(Tow) 92 tons; 620 kg	23.03 tons	1+3	7	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
234/59	55/13	800	216	Stnd	W(4)	HF1 HS1 HR1

# IVECO Magirus 330-40 ANWTM

Notes: The 330-40 ANWTM is a semi-tractor based upon the Magirus line of trucks produced by IVECO. Formerly known as the Magirus 400M33AS, this truck is a 6x6 vehicle with a heavy-duty cross-country suspension. Like most trucks of this sort, there are single wheels on the front axle and dual wheels on the two rear axles. The chassis and frame are made from high-strength steel designed to flex with bumps, with the fifth wheel being placed on an independent frame that keeps it level while traveling over rough terrain. The cab is a standard IVECO Magirus cab of the older variety, with a large hood for access to the engine and three seats, as well as dual air-intake stacks. Behind the seats is a space for crew equipment. Behind the cab are two 20-ton-capacity winches or a single 30-ton-capacity winch. A cab roof hatch with a weapon mount is optional, as is a sleeper cab. Another option for the 330-40 ANWTM is special larger, soft tires for the two rear axles, allowing it to better traverse sandy or snowy terrain.

The 330-32 ANWTM is the predecessor of the 330-40 ANWTM; in physical appearance, it is virtually identical to the 330-40 ANWTM, but the 330-32 ANWTM uses a non-turbocharged version of the engine used in the newer vehicle. The 330-32 ANWTM cannot use the special tires for soft terrain that the 330-40 ANWTM can use.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
330-40 ANWTM (Standard)	\$11,782	D, A	(Tow) 87 tons; 410 kg	14.2 tons	1+2	4	Headlights	Open
330-40 ANWTM (Sleeper Cab)	\$12,328	D, A	(Tow) 87 tons; 465 kg	14.49 tons	1+3	4	Headlights	Open
330-32 ANWTM (Standard)	\$11,108	D, A	(Tow) 83 tons; 370 kg	12 tons	1+2	3	Headlights	Open
330-32 ANWTM (Sleeper Cab)	\$12,158	D, A	(Tow) 83 tons; 420 kg	12.25 tons	1+3	3	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
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330-40 ANWTM (Standard)	220/55	50/13	700	122	Stnd	W(3)	HF1 HS1 HR1
330-40 ANWTM (Sleeper Cab)	216/54	50/13	700	122	Stnd	W(3)	HF1 HS1 HR1
330-32 ANWTM (Standard)	206/51	50/12	500	94	Stnd	W(3)	HF1 HS1 HR1
330-32 ANWTM (Sleeper Cab)	204/51	45/11	500	94	Stnd	W(3)	HF1 HS1 HR1

# MAN 6x6 Semi-Tractors

Notes: Used by a variety of countries worldwide (but not by Germany herself), these three semitractors use a common chassis, cab, and ancillary equipment. All three use all-steel forward-control tipper cabs, chassis frames and bumpers which are heavily-reinforced, and a fifth wheel carried on a reinforced sub-frame. Transmissions are normally manual, but the two smaller models may have automatic transmission at the request of the buyer. The transmissions include a power take-off to power the hydraulic winches; the two smaller models have one, with a capacity of 20 or 25 tons and using 50 meters of 24mm cable. In addition, each model is also equipped with a mechanical winch powered directly by the engine; this winch may be of 24-ton or 18-ton capacity, and is equipped with 60 meters of 26mm cable. (The 40.400 DFAT comes only with the 24-ton winch.) A large amount of options are available, including a variable speed governor for the engine, a tropical radiator kit (which also raises the height of the cab by 80mm), a manual engine throttle, a reinforced transmission, reinforced brackets for the exhaust system and fuel tanks, a roof-mounted air intake to allow greater fording capability, an exhaust pipe extended to the roof (for the same purpose as the roof-mounted air intake), a spare wheel and mount, a working platform behind the cab, and fiberglass water tanks (for drinking or otherwise) of a 60-liter capacity and up to two able to be carried. The primary difference between the three models are the engines. Note that while the normal maximum towing capacities of these trucks are listed below, these figures may be exceeded if necessary for a time; the 32.320 DFAT may be overloaded to 85 tons, the 32.365 DFAT overloaded to 105 tons, and the 40.400 DFAT overloaded to 130 tons. Overloading in this manner is very stressful on almost every component of the vehicle, and all maintenance figures are doubled for as long as this overload is being towed.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
32.320 DFAT	\$12,040	D, A	(Tow) 80 tons; 370 kg	13.1 tons	1+2	4	Headlights	Open

32.365 DFAT	\$12,240	D, A	(Tow) 80 tons; 395 kg	13.2 tons	1+2	4	Headlights	Open
40.400 DFAT	\$12,440	D, A	(Tow) 100 tons; 435 kg	13.3 tons	1+2	4	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
32.320 DFAT	196/49	49/12	630	94	Stnd	W(3)	HF1 HS1 HR1
32.365 DFAT	212/53	53/13	630	107	Stnd	W(3)	HF1 HS1 HR1
40.400 DFAT	240/60	60/15	630	130	Stnd	W(3)	HF1 HS1 HR1

# Mercedes-Benz 2636 AS

Notes: This semi-tractor's primary use is with heavy tank transporter trailers, though other types of semi-trailers may be towed by this truck. The cab is of the forward-control tipper type, with a heavy bumper up front and room for three in the sleeper cab. The air intake for the engine is on top of the cab and contains a filter for use in dusty environments. The transmission is manual, but hydraulically-assisted. The truck has a 6x6 suspension designed primarily for road use, but with limited off-road capability, and it has the standard single wheel front and dual wheel rear layout for such semi-tractors. The rear axles have differential locks, as well as the transfer case. Behind the cab is a spare tire and a winch with a capacity of 65 tons, with 60 meters of 26mm cable.

The 3850 AS is an improved version of the 2636 AS. It has a longer wheelbase, and uses a more powerful version of the same engine as the 2636 AS. The air intake has been moved from the roof, making room for a roof hatch with a weapons mount. The left-most seat folds forward and provides a hard platform upon which the gunner may stand. The sleeper section is gone, replaced by a folding bench seat which also has a storage bin beneath it. The cab is isolated from the frame and suspension by two pivot bearings, flexible rubber sleeves, and four vibration-dampened spring struts. Options include automatic transmission, special sand/snow tires, and a central tire inflation system. (Another version, the 3250 AS, has the sand/snow tires as standard equipment.) The 3850 AS is capable of towing an overload of up to 220 tons, but this puts an extreme strain on the vehicle and maintenance must be adhered to strictly in such a case; double the maintenance figure if such a load is towed.

The 4050 A is an 8x8 version of 3850 AS, and shares several components with that model. The main differences between the two trucks is the 4050 As higher fifth wheel loading and rear axles' suspensions, allowing it to tow heavier loads. The 4050 A also has two turbochargers for its engine, as opposed to the one turbocharger of the 3850 AS. The cab is virtually identical to the 3850 AS, but has a standard roof hatch with a weapon mount and optional air conditioning. The standard fuel tank for the 4050 A is 400 liters, but fuel tanks with capacities of up to 1000 liters are optional; other options include an automatic transmission and a central tire inflation system. A variant of the 4050 A, the 4850 A, has a further-reinforced frame, chassis, suspension, and fifth wheel to allow even heavier loads to be towed. The 4850 A may also has the capability to mount sand/snow tires on its rear axles, an ability the 4050 A lacks. In the case of both variants, a double load may be towed if necessary, but this is very stressful on all components of the truck and the maintenance figures should be doubled in such a case.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
2636 AS	\$10,252	D, A	(Tow) 105 tons; 350 kg	11.9 tons	1+2	3	Headlights	Open
3850 AS	\$14,096	D, A	(Tow) 110 tons; 495 kg	13.75 tons	1+6	4	Headlights	Open
4050 A	\$14,096	D, A	(Tow) 112 tons; 495 kg	15.5 tons	1+6	4	Headlights	Open
4850 A	\$15,104	D, A	(Tow) 139 tons; 495 kg	17.2 tons	1+6	4	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
2636 AS	224/45	50/10	400	105	Stnd	W(3)	HF1 HS1 HR1
3850 AS	258/51	60/13	600	185	Stnd	W(3)	HF1 HS1 HR1
4050 A	236/47	55/10	400	185	Stnd	W(4)	HF1 HS1 HR1

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	4850 A	220/44	50/10	400	185	Stnd	W(4)	HF1 HS1 HR1

### **Mercedes-Benz Actros 3353 AS**

Notes: These German-built semi-tractors are primarily used to tow tank transporter and heavy equipment semi-trailers. They are currently used only by Poland, though Mercedes-Benz is aggressively marketing them throughout the world, to the point that they have replaced all earlier Mercedes-Benz semi-tractors in production. There are also civilian users of this truck, though civilian versions are different from military versions in many aspects. The Actros 3353 AS may have a manual or automatic transmission, or a manual shift gate that allows manual or automatic transmission modes at the driver's option, and changeable on the fly. The truck has one primary radiator, but more may be added as necessary in hot climates. The suspension is heavy duty, 6x6, and has permanent all-wheel drive. Differential locks may be engaged as necessary, even while the truck is moving. The front axle uses single tires; the rear two axles may have single or dual tires, and if fitted with single tires, the Actros 3353 AS has a standard central tire inflation system. Antilock brakes are optional, as is a winch with a capacity of 65 tons or two winches with capacities of 20 tons each. The cab is a forward control tipper cab, The cab has two rows of seats, with the driver and one passenger up front and four more in the rear; an optional sleeper cab dispenses with the rear seat and replaces it with two bunks, and makes the cab's roof somewhat higher. The towing capacity of 110 tons may be doubled if necessary, but if more than 110 tons are towed, double all maintenance figures.

Twilight 2000 Notes: This semi-tractor does not exist in the Twilight 2000 timeline.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$14,396	D, A	(Tow) 110 tons; 525 kg	14.5 tons	1+1 or 1+5	5	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
258/65	60/16	1000	196	Stnd	W(3)	HF1 HS1 HR1

#### **ELBO 26S31/S38**

Notes: Actually designed by Steyr of Austria, the 26S31/S38 is produced under license by ELBO and used only by the Greeks. Its primary role is to pull tank transporter semi-trailers, but it can also tow other types of semi-trailers, and is in fact also used by civilian construction firms for their equipment. The design is basically similar to most Steyr-designed semi-tractors, with a forward control cab that tips forward for access to the engine and transmission. Construction is mostly of steel, but there is a load area behind the cab which has wood decking. The truck has a front-mounted winch with a capacity of 6 tons and another winch behind the cab with a capacity of 20 tons. The suspension is 6x6, but designed primarily for road use.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$13,746	D, A	(Tow) 57 tons; 305 kg	14 tons	1+2	4	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
182/27	40/6	400	112	Stnd	W(3)	HF1 HS1 HR1

#### Astra BM-305

Notes: This older semi-tractor was designed primarily to tow tank transporter semi-trailers. It is not actually in use by the Italian Army, but has had sales to Middle Eastern and North African countries, though of late it has been largely replaced or supplemented by newer designs. This model of the BM-305 is basically a military version of the civilian range of BM-305 heavy trucks, which were designed primarily for use in construction work. The military BM-305 has a minimum of modifications to suit it to a military role; this consisted for the most part of taking out most amenities and replacing things like the seats with stronger materials and the civilian radios with military ones. A NATO-type slave receptacle has also been added. The BM-305 uses a forward-control tipper cab which also has several access panels for the engine and transmission for less demanding maintenance and repairs. The cab has space for the driver and two passengers, as well as a space behind the seats for crew equipment. Suspension is 6x6, but is primarily meant for road use. There is a choice of two engines provided to buyers, an Italian FIAT-built engine or a German-made Mercedes-built engine. Both have 352 horsepower and are compatible with the same transmission, but the Mercedes engine has 10 cylinders as opposed to the FIAT engine's 8, and although the FIAT engine is smaller, it has more torque than the Mercedes engine. For game purposes, the performance with either engine is identical, except when maintenance or finding parts is required.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$9,674	D, A	(Tow) 60 tons; 390 kg	10.4 tons	1+2	3	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
244/37	61/9	300	103	Stnd	W(3)	HF1 HS1 HR1

#### Astra HD 66.45 TIM

Notes: This semi-tractor is based on the Astra HD series of heavy trucks. The wheelbase has been widened, and thicker rear axles have been fitted, making them stronger for towing operations and allowing the fitting of dual tires on the two rear axles. The suspension is 6x6, but optimized for road use and with limited off-road capability. Two 20-ton winches are mounted behind the cab, but 25-ton-capacity winches are an option. The cab is the forward control type, tipping forward for maintenance, and it is a sleeper cab with two bunks. The cab also has a heater and air conditioner.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
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\$12,382	D, A	(Tow) 100 tons; 440 kg	15.5 tons	1+2	4	Headlights	Open
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Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
216/43	50/10	800	130	Stnd	W(3)	HF1 HS1 HR1

#### **IVECO 320-45 WTM**

Notes: The 320-45 WTM was designed specifically for the towing of tank transporter trailers, especially carrying the Leopard 1s the Italian Army uses. Known to the Italian Army as the ATC/81, it was introduced in 1978 and remains in service today; a variant is also uses by the United Arab Emirates. The trailer it normally tows is the Bartoletti Mod TCS-50 BO, but other semi-trailers may be towed as well. The 320-45 WTM has a forward-control cab which tips forward. There are two types of cab available: one is of all-steel construction with a hard top and doors, and the other has a canvas top, doors where the tops or the entire door may be removed, and a windshield that may be folded flat against the front of the cab. At the rear of the cab are two winches with capacities of 20 tons each, with 50 meters of cable. The suspension is an off-road 6x6 type, with single tires up front and duals for the two rear axles.

The variant used by the UAE has single tires on all wheels, but the rear two axles are fitted with special sand tires which are significantly larger than those on the front end. The front tires are also larger than those used on Italian versions, and are special sand tires. The wheelbase is slightly longer than the Italian model, but the entire vehicle is lighter in weight than the Italian variant.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
Italian Version	\$12,382	D, A	(Tow) 93.42 tons; 450 kg	15.4 tons	1+3	4	Headlights	Open
UAE Version	\$12,418	D, A	(Tow) 93.42 tons; 450 kg	14.7 tons	1+3	4	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor

Italian Version	216/54	50/13	500	162	Stnd	W(3)	HF1 HS1 HR1
UAE Version	224/56	50/13	500	162	Stnd	W(3)	HF1 HS1 HR1

#### **IVECO EuroTrakker**

Notes: These trucks – the MP 720E54 W and the MP 1100E80 W (and their variants) – are the semi-tractor components of the IVECO Euro range of civilian trucks, suitably militarized. The cabs and transmissions are common to the civilian versions, but the engines, gearboxes, transfer boxes, and cooling systems are greatly upgraded. Several engines are available for each truck, and they may have manual, automatic, or selectable manual/automatic transmissions. The MP720E54 W is 6x6 and the smaller of the two; it has an off-road suspension, typically fitted with single front tires and dual rear tires, though single sand/snow tires on all wheels is an option. Differential locks are standard, but antilock brakes and a central tire inflation system are optional. The cab is all-steel and is a forward-control sleeper cab; options for the cab include a rear bench seat replacing the bunk, or two bunks instead of one. Other options for the cab are additional armor protection, mine protection, air conditioning, and a roof hatch with a weapons mount. Behind the cab are a pair of 15-ton-capacity winches.

The MP 1100E80 W is similar, but is an 8x8 vehicle with greater towing capacity and generally higher engine horsepower.

Twilight 2000 Notes: These trucks are not available in the Twilight 2000 timeline.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
MP 720E37 W	\$12,144	D, A	(Tow) 85 tons; 370 kg	14.23 tons	1+2	4	Headlights	Open
MP 720E44 W	\$12,544	D, A	(Tow) 85 tons; 440 kg	14.33 tons	1+2	4	Headlights	Open
MP 720E45 W	\$12,944	D, A	(Tow) 85 tons; 450 kg	14.39 tons	1+2	4	Headlights	Open

MP 720E48 W	\$12,944	D, A	(Tow) 85 tons; 480 kg	14.41 tons	1+2	4	Headlights	Open
MP 720E52 W	\$13,344	D, A	(Tow) 85 tons; 520 kg	14.49 tons	1+2	4	Headlights	Open
MP 720E54 W	\$13,344	D, A	(Tow) 85 tons; 540 kg	14.5 tons	1+2	4	Headlights	Open
MP 1100E52 W	\$16,854	D, A	(Tow) 110 tons; 520 kg	16.59 tons	1+2	5	Headlights	Open
MP 1100E54 W	\$16,854	D, A	(Tow) 110 tons; 540 kg	16.6 tons	1+2	5	Headlights	Open
MP 1100E60 W	\$17,254	D, A	(Tow) 110 tons; 600 kg	16.7 tons	1+2	5	Headlights	Open
MP 1100E80 W	\$18,454	D, A	(Tow) 110 tons; 800 kg	17 tons	1+2	5	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
MP 720E37 W	204/51	45/13	600	136	Stnd	W(3)	HF1 HS1 HR1
MP 720E44 W	228/58	55/13	600	162	Stnd	W(3)	HF1 HS1 HR1
MP 720E45 W	232/58	55/13	600	166	Stnd	W(3)	HF1 HS1 HR1
MP 720E48 W	242/60	55/13	600	177	Stnd	W(3)	HF1 HS1 HR1

MP 720E52 W	256/64	60/16	600	192	Stnd	W(3)	HF1 HS1 HR1
MP 720E54 W	262/65	60/16	600	200	Stnd	W(3)	HF1 HS1 HR1
MP 1100E52 W	232/58	55/13	1000	192	Stnd	W(4)	HF1 HS1 HR1
MP 1100E54 W	238/59	55/13	1000	200	Stnd	W(4)	HF1 HS1 HR1
MP 1100E60 W	254/65	60/16	1000	221	Stnd	W(4)	HF1 HS1 HR1
MP 1100E80 W	314/79	75/19	1000	296	Stnd	W(4)	HF1 HS1 HR1

#### **IVECO M 1100.50 WTM**

Notes: This semi-tractor is part of the IVECO Heavy Range of military trucks, and is basically the 320.42 WM modified into the semi-tractor role. The cab is made of glass-fiber resin composite, can take add-on armor panels. It is of cabover tipper design. The chassis is made from high-grade steel. There are tow pintles on the front and rear for recovery purposes. Behind the cab are twin winches with a capacity of 25 tons each. The suspension is a heavy-duty 8x8 design with differential locks and twin tires on the rear two axles. The truck has power steering, antilock brakes, and an optional governor. Standard towing capacity is 105 tons, but by reducing speed to half, 130 tons may be towed.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$15,746	D, A	(Tow) 105 tons; 500 kg	19 tons	1+3	5	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
206/51	50/13	600	185	Stnd	W(4)	HF1 HS1 HR1

#### **FW-455LRS2**

Notes: Known to the Japanese armed forces as the Type 84 truck tractor, this semi-tractor is designed primarily for cargo trailers with no more than three axles, though it may also carry light tanks and armored vehicles. The truck uses a forward control cab which tips forward for maintenance of the engine and transmission. The cab doors are unusual, having windows at both the top and bottom with a small metal panel separating them. There is a stowage rack for the crew's equipment on the roof of the cab. There is also another stowage rack on the rear of the cab, but it normally carries a spare tire. The suspension is 6x6, but designed primarily for road use.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$11,886	D, A	(Tow) 66.24 tons; 430 kg	9.5 tons	1+2	3	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
304/46	70/11	400	159	Stnd	W(3)	HF1 HS1 HR1

#### **NW-204JR**

Notes: An older truck than the FW-455LRS2 above, this vehicle is of similar towing capacity as that vehicle. Known to the Japanese armed forces as the Type 73 truck tractor, this semi-tractor is also designed to tow a semi-trailer with no more than three axles, and can tow the same semi-trailers as the FW-455LRS2. However, instead of being a cabover design, the NW-204JR is of conventional design, with the engine at the front under a hood and access panels, a center cab, and a rear area with the fifth wheel.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$11,636	D, A	(Tow) 66.24 tons; 375 kg	9.5 tons	1+2	3	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
274/41	65/9	400	111	Stnd	W(3)	HF1 HS1 HR1

## **MAZ-537**

Notes: A member of the MAZ-535 family of heavy trucks, the MAZ-537 comes in several variants and entered production in 1958. Though long out of production, the MAZ-537 is still used by Russia and some members of the former Warsaw Pact as well as sever former Soviet client states in various parts of the world. The MAZ-537's towing ability is less than impressive, considering the size of the beast, but it is a robust design able to take a lot of punishment, and easily capable of off-road driving. The MAZ-537 has an 8x8 suspension, power steering with the front two axles being steerable, a heater for the cab, and an engine pre-heater. Variants include MAZ-537D, which has an additional generator to the rear of the cab to aid in the use of recovery equipment and power winches or other equipment which may be on the trailer; the MAZ-537E, which has the same additional generator, as well as a recovery winch behind the cab; and the MAZ-537G, which does not have the generator, but does have the winch. (There is also a MAZ-537A, which is a conventional cargo truck instead of a semi-tractor, and a MAZ-537K, which is a cargo truck with a materiel handling crane; these will not be covered here.)

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
MAZ- 537	\$14,226	D, A	(Tow) 65 tons; 525 kg	21.6 tons	1+4	6	Headlights	Open
MAZ- 537D	\$14,582	D, A	(Tow) 65 tons; 525 kg	21.63 tons	1+4	7	Headlights	Open
MAZ- 537E	\$14,728	D, A	(Tow) 65 tons; 525 kg	21.66 tons	1+4	7	Headlights	Open
MAZ- 537G	\$14,368	D, A	(Tow) 65 tons; 525 kg	21.63 tons	1+4	6	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
MAZ-537	194/49	45/13	840	154	Stnd	W(4)	HF1 HS1 HR1
MAZ-537D	194/49	45/13	840	154	Stnd	W(4)	HF1 HS1 HR1

MAZ-537E	194/49	45/13	840	154	Stnd	W(4)	HF1 HS1 HR1
MAZ-537G	194/49	45/13	840	154	Stnd	W(4)	HF1 HS1 HR1

## **MZKT Volat 74135**

Notes: Not meant for Russian use, the Volat semi-tractor was designed by Belarus specifically for the Middle East market. It includes features for operations in hot, dusty environments, such as high-efficiency air and oil filters, air conditioning, and special sand tires. The suspension is 8x8 and designed for off-road operations, even in deep sand. The Volat is specifically designed to tow the MWTP-99941 semi-trailer, but other semi-trailer designs of Russian or East European origin or used in the Middle East may be used. The engine is a German design, coupled to a US-designed automatic transmission. The Volat has a central tire inflation system. The cab is behind the very large engine compartment; at the rear of the cab is a spare tire a handling crane for the spare tire, and a German-designed winch with a capacity of 25 tons and 100 meters of cable. Optional equipment for the Volat includes a stainless steel tank for drinking water (several sizes are available), a spotlight, and differential locking.

Twilight 2000 Notes: This truck does not exist in the Twilight 2000 timeline.

Merc 2000 Notes: This truck does not exist in the Merc 2000 timeline.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$23,978	D, A	(Tow) 118.45 tons; 788 kg	26.45 tons	1+6	8	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
224/56	50/13	1150	291	Stnd	W(4)	HF1 HS1 HR1

#### **KM-1002**

Notes: This is South Korea's prime mover for tank transporters and other semi-trailers of a military nature. It has an 8x8 suspension with good off-road capabilities. Little details of the transmission and automotive components have been released, but an automatic transmission of some sort is possible. The cab is a forward control tipper type, with seating for the driver and 5 passengers in two rows of seats. There are twin recovery winches behind the cab, along with a spare tire; these winches have a capacity of 25 tons each. The KM-1002 is designed to operate in a wide variety of climatic conditions, from deep winter to a hot summer. It is a fairly quiet truck as well, giving off noise of less than 85 decibels at full power.

A variant, the KM-1001, has a towing capacity half that of the KM-1002 and is somewhat smaller, but is otherwise virtually identical to the KM-1002.

Twilight 2000 Notes: These semi-tractors do not exist in the Twilight 2000 timeline.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
KM- 1002	\$14,986	D, A	(Tow) 88 tons; 450 kg	16.8 tons	1+5	5	Headlights	Open
KM- 1001	\$12,290	D, A	(Tow) 44 tons; 450 kg	15.1 tons	1+5	4	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
KM- 1002	208/53	50/13	750	166	Stnd	W(4)	HF1 HS1 HR1
KM- 1001	224/56	50/13	750	166	Stnd	W(4)	HF1 HS1 HR1

# Kynos Aljaba

Notes: The Aljaba was originally developed in 1982 by a company – Kynos – which normally builds civilian construction equipment and had not until that point built military vehicles. The Aljaba is used by the Spanish armed forces; it is also used by South Africa, but called by SANDF the Cavallo. The Aljaba is one of Spain's primary tank transporters; in South Africa, it is used more as a tank recovery vehicle instead of tank transportation, though vehicle transportation is not unknown, as well as the towing of other types of semi-trailers.

The chassis and suspension of the Aljaba are built for off-road use. The chassis is built on a reinforced flexible frame, and the 8x8 suspension has swing arms for the front and rear axle sets. The transmission is semi-automatic, with the two pront axles being steerable and the steering being power-assisted. Each pair of axles may be pneumatically locked. The Aljaba has airbrakes as well as external tire inflation systems (one for each side of the vehicle). Single tires are used on all axles, but they are large and wide ones; special tires may also be fitted for sand, and snow chains come with the truck. A spare tire with a handling crane is provided, and mounted behind the cab. Also behind the cab are a pair of 25-ton-capacity winches with 26mm-thick cable. The cab has a steel frame mounted on shock absorbers to isolate it from terrain bumps and dips.

The South African Cavallo version has a number of differences from the Aljaba. The most obvious is mine protection – the cab has an armored underside, sides and front, with the sides and front having an AV of 2 and the underside 3. The Cavallo also has folding A-frame crane used in concert with the winches; it may be used only when a semi-trailer is not attached to the Cavallo, as it gets in the way of the fifth wheel. The Cavallo has also been modified into a specialized heavy recovery vehicle, which will not be covered on this page.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
Aljaba	\$20,512	D, A	(Tow) 98.6 tons; 525 kg	22.1 tons	1+4	6	Headlights	Open
Cavallo	\$24,248	D, A	(Tow) 98.6 tons; 525 kg	23.8 tons	1+4	7	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
Aljaba	192/48	45/13	1000	193	Stnd	W(4)	HF1 HS1 HR1

Cavallo	182/46 40/9	1000	193	Stnd	W(4)	HF1 HS1 HR1
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# Pegaso 7345

Notes: This semi-tractor was designed primarily to pull tank transporter trailers. It is a newer design than the Aljaba, having been introduced in 1988, but is designed to tow a lesser load, due the fact that Spain needed a smaller tank transporter for transit through its tunnels and mountain roads. The Pegaso 7345 has a forward control tipper cab with seating for six in two rows of seats. The 6x6 suspension has some off-road capability, but is primarily meant for road use. Behind the cab is a spare tire and two winches with a 20-ton-capacity each.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$12,726	D, A	(Tow) 90 tons; 450 kg	15 tons	1+5	4	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
224/45	50/10	560	166	Stnd	W(3)	HF1 HS1 HR1

## Scania C-42

Notes: The C-42-type semi-tractor actually comes in two versions: the T-112E C-42 with a forward-control tipper cab and a 430-horsepower engine, and the R-142E C-42 with a conventional cab and its 343-horsepower engine in a separate engine compartment under a hood. Both are virtually identical in size and weight, and share the same frame, chassis, transmission (which is manual), suspension, and fifth wheel system. They are both designed to tow a variety of different semi-trailers, but are primarily used to tow tank transporter trailers and ammunition trailers for artillery. In both cases, the cabs are large and roomy, are equipped with heaters (with air conditioning optional), have four doors for personnel, and provide room for two crewmembers and four passengers, as well as their equipment. Suspension is 6x4, and while the suspension is better than a road-only truck, it is not quite as robust as a true off-road suspension.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
T-112E C-42	\$12,054	D, A	(Tow) 85 tons; 385 kg	13.5 tons	1+5	4	Headlights	Open
R- 142E C-42	\$11,654	D, A	(Tow) 78 tons; 340 kg	13.35 tons	1+5	4	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
T-112E C-42	234/47	59/9	400	127	Stnd	W(3)	HF1 HS1 HR1
R-142E C-42	202/40	51/8	400	101	Stnd	W(3)	HF1 HS1 HR1

#### Scania T144GB6x4NZ530

Notes: This semi-tractor was introduced in early 1997, with full-scale production starting in 1998. They were designed specifically to tow a tank transporter, and especially ones carrying Sweden's version of the Leopard 2 tank (Strv 121 and 122). In 2000, they were introduced into Belgian service, and in 2003, to the French military. Though all three countries use the same base semi-tractor, they tow different trailers in each country, and have different types of ancillary equipment. The cab of the truck is sort of a sleeper cab; it has a curtain between the front and rear rows of seats, but the off-duty

crewmember sleeps on the seat itself in the Swedish and French versions, which is also used for passengers (primarily the crew of the tank being transported). Some of the Belgian cabs are also built like this, but some have genuine sleeper cabs with two bunks. Belgian and French models also have optional air conditioning, heating, camouflage netting, a pair of rotating spotlights and beacons, and snow chains. Swedish models have a heater as standard, as well as a blowtorch, an engine heater and pre-heater; options include camouflage netting, two spotlights, rotating beacons, and snow chains. The truck has a forward engine compartment with a large hood and a central cab. Behind the rear seat is a compartment for crew equipment. Swedish trucks of this sort have a pair of 15.3-ton-capacity winches with 50 meters of 19mm cable; these winches have a remote control. Belgian Army versions use two 20.4-ton-capacity winches with 45 meters of 7mm cable. The suspension is 6x4 and designed primarily for road use. Note that while 150 tons is the maximum the truck can tow, peacetime safety regulations usually limit this to 124 tons.

Twilight 2000 Notes: This semi-tractor does not exist in the Twilight 2000 timeline.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$14,772	D, A	(Tow) 150 tons; 530 kg	13.37 tons	1+5	4	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
276/41	65/9	500	198	Stnd	W(3)	HF1 HS1 HR1

## Scania R-143EK

Notes: This semi-tractor were procured by the Swedish Army in small numbers between 1990 and 1991. It is primarily a tank-transporter semi-tractor, though it can tow other types of semi-trailers, and was designed specifically for military use. The cab has two rows of seats, with a space behind the seats for crew and passenger equipment (to a certain point – the space is not large). The cab is a forward control tipper cab with four doors and is heated. Behind the cab are a spare tire rack and a pair of 20-ton-capacity winches with 40 meters of 24mm cable. The truck also comes with snatch blocks and a hydraulic jack should a tire need to be changed, as well as two spotlights and a rotating beacon. The engine has a pre-heater and a fuel heater. The suspension is 6x6 and is off-road capable. It should be noted that while production for the Swedish Army continued only until 1991, the R-143EK was then "civilianized" and placed on the regular market, with production continuing until 1996. Civilian models have no winches and are generally more "luxurious", and often have sleeper cabs in place of the second row of seats, but are otherwise similar.

A variant of the R-143EK, the T-143E, has a different cab – it uses a conventional-layout front end with the engine up front under a hood, the cab center (with either a short cab with one row of seats and two

doors, two rows of seats with two doors, or, for civilian purposes, a sleeper cab). The suspension of the T-143E is 6x4 and primarily meant for the road. Performance is similar to the R-143EK. The Swedish Army has a very few of these, but most construction was for civilian purposes.

Twilight 2000 Notes: In a controversial move, most civilian R-143EKs and T-143Es were appropriated for military use early on – even those already in private ownership.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
R- 143EK	\$11,890	D, A	(Tow) 100 tons; 450 kg	14.8 tons	1+5	4	Headlights	Open
T-143E (Short Cab)	\$11,654	D, A	(Tow) 100 tons; 450 kg	14.34 tons	1+2	4	Headlights	Open
T-143E (Long Cab)	\$12,200	D, A	(Tow) 100 tons; 450 kg	14.88 tons	1+5	4	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
R-143EK	226/56	50/13	400	133	Stnd	W(3)	HF1 HS1 HR1
T-143E (Short Cab)	232/35	55/13	400	133	Stnd	W(3)	HF1 HS1 HR1
T-143E (Long Cab)	226/34	50/9	400	133	Stnd	W(3)	HF1 HS1 HR1

## Volvo FH-16

Notes: This semi-tractor was designed for extreme climatic conditions, whether very hot or very cold. Currently it is used only by Israel, who uses it primarily for the transportation of semi-trailers carrying Merkava tanks. The cab is that of the Volvo Globetrotter civilian semi-tractor, with a high-roofed forward control sleeper cab. The cab can be air conditioned for hot climates, and a roof hatch of various sizes with or without a weapon mount is also an option. Behind the cab is a large stowage bin and a pair of 25-ton-capacity winches. The suspension is 6x6, but designed primarily for road or dirt

road use.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$13,982	D, A	(Tow) 110 tons; 520 kg	13 tons	1+5	4	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
276/41	65/9	620	192	Stnd	W(3)	HF1 HS1 HR1

#### Volvo N-12

Notes: Developed from a civilian semi-tractor, the N-12 was procured in 1977 specifically to pull tank transporter semi-trailers carrying Centurions or S-Tanks. It is capable of towing other semi-trailers, however. It is a conventional layout semi-tractor, with the engine in front, cab center, and the fifth wheel in the rear. The cab has two rows of seats and is able to carry the crew of the tank being transported as well as the crew of the truck on two rows of seats. The cab is heated. An omission is a winch, but most of the transporter trailers Sweden uses do have winches of their own and a truck-mounted winch was judged unnecessary (at the time). The suspension is 6x4 (the front wheels are not powered) with a reinforced frame, chassis, and suspension; though the suspension is not really designed for off-road use, it can deliver respectable off-road performance. The N-12 has a stowage bin as the rear of the cab for crew equipment and differential locks for the wheels.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$11,344	D, A	(Tow) 80 tons; 325 kg	11.2 tons	1+5		Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
220/44	50/10	300	120	Stnd	W(3)	HF1 HS1 HR1

## FWD 66TT50/66TT60

Notes: These two semi-tractors were designed as a private venture in hopes of sales to the US military. They did not enjoy such sales, but reportedly 200 of these two semi-tractors, along with FWD 3ST50 tank transporter semi-trailers, have been sold to an undisclosed country. They are conventional-layout trucks, with an engine compartment up front, a central cab with seating for three (and little else), and a fifth wheel at the rear. A winch is mounted at the rear of the cab, with a capacity of 45.36 tons and 76 meters of 25mm cable. The cab is equipped with a heater, defroster, dual air horns, and a rotating light on top of the cab, in a color of the buyer's choice. Both trucks have power steering. The suspension is 6x6 and designed for off-road use and equipped with air brakes and parking brakes (on the rear axle only). Twin tow hooks are located on the front and rear of the vehicle. Other equipment present on these trucks include an air compressor with 7.5 meters of hose and tipped for use in inflating tires, a spare tire on the left side of the vehicle next to the winch, a 20-ton-capacity hydraulic jack, and a set of basic tools. The two versions are essentially the same in size and appearance, but the 66TT60 version uses a more powerful engine, fuel tanks almost double the size of the 66TT50, a strengthened frame and fifth wheel, and a greater towing capacity.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
66TT50	\$12,158	D, A	(Tow) 49.64 tons; 480 kg	12 tons	1+2	3	Headlights	Open
66TT60	\$12,358	D, A	(Tow) 61.48 tons; 515 kg	14 tons	1+2	4	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
66TT50	220/55	55/14	380	103	Stnd	W(3)	HF1 HS1 HR1
66TT60	216/54	54/14	756	118	Stnd	W(3)	HF1 HS1 HR1

#### M-123

Notes: This Mack design was introduced in the early 1950s, and is basically a version of the M-125 cargo truck. The design was later bought by Consolidated, but production stopped long ago. It was replaced in the US military in the mid-1970s by the M-911, and taken out of service; Spain, the only other user, still keeps some of them in reserve, but it is no longer in active service in that country.

The M-123 is conventional-layout semi-tractor with a engine compartment under a hood up front, a central cab, and a rear area with winch and fifth wheel. The cab is simple, with seating for three (and room for very little else), a removable canvas roof, and a forward-folding windshield. Behind the cab is a winch with a capacity of 20.55 tons; this winch is powered by the truck's engine and when it is in use the throttle of the truck is controlled from the winch platform. Suspension is 6x6 and designed for off-road use; the suspension is equipped with differential braking to help the M-123 make tighter turns, and the wheels are also equipped with air brakes. There is a towing pintle in the rear of the M-123, enabling it to tow standard trailers if necessary. The engines have an intake manifold heater to assist in starting the engine in cold weather; the M-123 can be started up from a cold start in temperatures as low as -10 degrees Celsius. The standard M-123 is compatible (and can actuate) trailers with air brakes, but a conversion kit is available to allow the M-123 to actuate brakes on trailers using electrical brake connections.

Variants of the M-123 include a model with dual winches behind the cab (also called the M-123), the M-123C, with a single winch but with the fifth wheel mounted low (the fifth wheel on the standard M-123 and the dual-winch M-123 are mounted high), the M-123D, which is the same as the M-123C but has dual winches, the M-123A1 which uses a diesel engine instead of the M-123's gasoline engine, and the M-123A1C, which is an M-123A1 with a low-mounted fifth wheel.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
M-123/M- 123C (Single Winch)	\$10,254	G, A	(Tow) 54.55 tons; 445 kg	14.77 tons	1+2	4	Headlights	Open
M-123/M- 123D (Dual Winches)	\$10,459	G, A	(Tow) 54.55 tons; 445 kg	14.92 tons	1+2	4	Headlights	Open
M-123A1/ M-123A1C (Single Winch)	\$10,254	D, A	(Tow) 54.55 tons; 445 kg	13.74 tons	1+2	4	Headlights	Open
M-132A1/ M-123A1C (Dual Winches)	\$10,459	D, A	(Tow) 54.55 tons; 445 kg	13.89 tons	1+2	4	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
M-123/M-123C (Single Winch)	172/43	43/11	630	131	Stnd	W(3)	HF1 HS1 HR1
M-123/M-123D (Dual Winches)	172/43	43/11	630	131	Stnd	W(3)	HF1 HS1 HR1
M-123A1/M-123A1C (Single Winch)	182/45	46/11	630	88	Stnd	W(3)	HF1 HS1 HR1
M-132A1/M-123A1C (Dual Winches)	180/45	45/11	630	88	Stnd	W(3)	HF1 HS1 HR1

## **M-746 HET**

Notes: The M-746 HET (Heavy Equipment Transporter) design goes all the way back to the abortive US/West German MBT-70 tank design. The M-746 was the US candidate for the semi-tractor portion of the tank transporter for the MBT-70. The M-746 was originally a joint design between Chrysler, Faun, and Krupp, but when the MBT-70 project fell through, Chrysler finished the M-746 design but sold the design to Ward LaFrance, who sold them first to the US Army in between 1975 and 1977. Later, sales to Morocco followed.

The M-746 is a rather large truck with a forward-control cab. The cab has a hatch on the roof over the right side of the cab, but it has no weapon mount and the roof is not reinforced to accept one. The cab itself is very small and has little enough room for its three crewmembers, let alone any of their personal equipment (which is normally strapped to the outside of the vehicle). To the rear of the engine compartment are a pair of winches, each with a capacity of 27.22 tons and 45.72 meters of 25mm cable. The suspension is 8x8, off-road capable, and has power steering and a transmission with power-assisted shifting (though it is a manual transmission). The rear axles have locking differentials. The brakes automatically adjust to the traction conditions and also have antiskid features. The M-746 has twin spotlights mounted forward of the winches, alongside the engine compartment which is located just to the rear of the cab.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$14,110	D, A	(Tow) 62.14 tons; 625 kg	20.41 tons	1+2	5	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
222/55	56/14	530	177	Stnd	W(4)	HF1 HS1 HR1

#### M-911

Notes: This semi-tractor is based on the Oshkosh F-2365 civilian semi-tractor, and is basically a militarized version of that vehicle. The M-911 was introduced in 1976, and is in service with about ten countries around the world, including the US. In addition to duties as a tank transporter, the M-911 is used by those countries for duties ranging from bulk trailer transport to towing missile launchers.

The M-911 has the standard truck layout of a front-mounted engine under a hood, a central cab, and a rear area with the fifth wheel. The cab includes an adjustable seat for the driver and a bench seat beside it. The cab may have a removable hard top or a canvas roof. The windshield wipers are equipped with a hot water spray supplied by 22,000-BTU hot water heater and there is also a defroster. All wheels on the three axles have airbrakes; the front wheels and the rear two sets of wheels have separate air systems, so that the vehicle still has brakes if one system fails. Each system is capable of braking at up to 80% power. The transmission is fully automatic, with automatic systems which prevent an upshift or downshift at speeds where it would be dangerous. The suspension is 6x6 and off-road capable. Behind the cab are two winches, each with a capacity of 20.41 tons. In addition, there are rear decklights, a spare tire in a carrier, a towing hook, for standard trailers, a hydraulic jack, and a tire inflation hose that is fed by an internal air compressor. The M-911 also includes a pair of spotlights and fog lights. Air conditioning for the cab is optional.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
450 hp Engine	\$14,672	D, A	(Tow) 86.18 tons; 540 kg	18.14 tons	1+2	6	Headlights	Open
500 hp Engine	\$14,872	D, A	(Tow) 86.18 tons; 570 kg	18.24 tons	1+2	6	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
		,					

450 hp Engine	198/49	45/13	757	133	Stnd	W(3)	HF1 HS1 HR1
500 hp Engine	210/53	50/13	757	148	Stnd	W(3)	HF1 HS1 HR1

## M-1070 HET

Notes: The M-1070 HET (Heavy Equipment Transporter) was specifically designed to transport tank transporters carrying the M-1A1 Abrams, with deliveries starting in 1992, and production continuing to this day. In addition to the US Army, Egypt also uses the M-1070 to transport its M-1A1as and other semi-trailers. The M-1070 is an 8x8 vehicle with an off-road capable suspension and central tire inflation. The transmission is automatic. The axles are grouped with one at the front and three at the rear, each with single tires. The cab is of a semi-cabover type, with a short hood (though the engine is under the crew compartment; the engine is accessed through the front of the vehicle and the short hood, however. The cab has two rows of seats, with the front having individual seats for the two crewmembers of the truck and the rear having a bench seat usually occupied by the crew of the tank being transported, along with a space behind the seats for crew and passenger equipment. The standard tank transporter trailer which is towed is the M-1000, though the M-1070 is capable of towing other military semi-trailers. The M-1070 has two 25-ton-capacity winches behind the cab, along with a spare tire carrier.

In 1997, the M-1070E1 variant was developed, with a more powerful engine, and other improvements. This version was not accepted for use by the US Army due to budgetary reasons (but is included below for completeness), but was offered to the British to fulfill their need for a semi-tractor to transport the Challenger 2 tank (along with the M-1000 trailer. Unfortunately, the engine did not meet the needs of the British (it was judged to not be powerful enough, considering the Challenger 2's eventual weight), and so Oshkosh developed the M-1070F. This version has an even more powerful engine, coupled to an automatic transmission with 7 gears instead of the five of the M-1070, as well as a manual override for the transmission. It has also been modified to British left-hand drive. The M-1070F has antilock brakes and traction control. This version was accepted by the British Army, where it partially replaced the Scammell Commander, with deliveries starting in 2002 and finished by 2004.

Twilight 2000 Notes: The M-1070F does not exist in the Twilight 2000 timeline. The M-1070E1 was placed into production as the M-1070A1 in late 1995, but few examples actually were built, and even fewer made it overseas, all to US units.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological

M-1070	\$16,800	D, A	(Tow) 104.96 tons; 570 kg	18.6 tons	1+5	6	Headlights	Open
M- 1070E1	\$17,600	D, A	(Tow) 116.57 tons; 645 kg	18.6 tons	1+5	6	Headlights	Open
M- 1070F	\$18,000	D, A	(Tow) 118.05 tons; 680 kg	20.1 tons	1+5	6	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
M-1070	208/53	50/13	946	184	Stnd	W(4)	HF1 HS1 HR1
M-1070E1	244/61	55/16	946	233	Stnd	W(4)	HF1 HS1 HR1
M-1070F	250/63	60/16	946	259	Stnd	W(4)	HF1 HS1 HR1

#### Mack RD8226SX

Notes: This is a militarized version of the civilian Mack RM6006S range of semi-tractors. It is not capable of carrying some of the world's heavier tanks, but may tow most tanks in the world, in addition to a wide variety of other semi-trailers. The standard military cab has an individual driver's seat (which has its own suspension to reduce driver fatigue), and a bench seat beside it for passengers. A second row of seats or a sleeper cab is an option. The truck also has an adjustable steering wheel and a very civilian-like instrument panel. The engine is up front under a hood, with the fifth wheel to the rear. The suspension is 6x6, with an off-road suspension. Other options for this truck are too numerous to mention. It is in service in many of the world's militaries.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological

Standard Cab	\$15,606	D, A	(Tow) 92.25 tons; 570 kg	12.4 tons	1+2	4	Headlights	Open
Long Cab	\$16,254	D, A	(Tow) 92.25 tons; 570 kg	12.6 tons	1+6	5	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
Standard Cab	278/70	65/16	832	185	Stnd	W(3)	HF1 HS1 HR1
Long Cab	274/69	65/16	832	185	Stnd	W(3)	HF1 HS1 HR1

#### Navistar F5070

Notes: Navistar (originally International Harvester) developed the F5070 as military semi-tractor version of its International Paystar 5000 series. As such, it is better-appointed than the standard military truck, often being equipped with cab air conditioning, heating, more comfortable seats (though not as comfortable as civilian seats), and sometimes even civilian commercial and/or CB radios in addition to military radios. Otherwise, the F5070 has the minimum modifications to suit it to military use. The transmission may be a Fuller manual transmission (with several models of Fuller transmission available, with different gear ranges), or one of several Allison automatic transmissions. The cab is designed for three people and has a small space behind the seat for personal equipment, though most such equipment must be strapped to the outside of the vehicle. In front of the cab is the engine compartment (the F5070 has a conventional configuration), and behind the cab are twin winches, each with a capacity of 29.5 tons and equipped with 45.72 meters of cable. The standard suspension is 6x4 and designed primarily for road use, but a 6x6 version is also available with slightly better off-road performance and somewhat better towing capabilities. The primary military users of the F5070 are various unnamed Middle Eastern countries, but sales have been made to other countries as well as some civilian agencies.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological

F5070 6x4	\$12,516	D, A	(Tow) 60 tons; 510 kg	16.88 tons	1+2	4	Headlights	Open
F5070 6x6	\$12,829	D, A	(Tow) 64 tons; 510 kg	17.24 tons	1+2	4	Headlights	Open

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
F5070 6x4	192/29	48/7	1083	118	Stnd	W(3)	HF1 HS1 HR1
F5070 6x6	188/38	47/8	1083	118	Stnd	W(3)	HF1 HS1 HR1

# FAP 3232BDST/AV

Notes: A modification of the FAP 2832 heavy truck, this semi-tractor is basically the FAP 2832 with the cargo body replaced by an area carrying a fifth wheel. The semi-tractor has a forward control cab with a tilting body for maintenance of the engine and transmission, with individual seating for the driver and one other crewmember. There is ample space behind the seat for their equipment. The suspension is 8x8 and off-road capable, with a central tire inflation system. All eight axles have single tires. The truck is not a heavy hauler compared to most military semi-tractors, but most tanks in the former Yugoslavia are fairly light as tanks go. The truck has a pair of winches behind the cab; one is routed forward, while the other one pulls to the rear.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$12,258	D, A	(Tow) 65 tons; 465 kg	16 tons	1+1	4	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
172/43	40/9	450	94	Stnd	W(4)	HF1 HS1 HR1