



#### **FEATURES**

- KA's unique modular, self-supported designs
- Modular building blocks for tilt and telescope functions
- Variable steering column length
- Variable position of tilt and telescope
- Variable angles for tilt function and step-in and step-out positions
- Tilt locking system, incremental or infinite locking
- Telescope function with infinite positioning, low or high telescope positions
- Compatible with all types of steering wheel connections
- Single hand lever, foot pedal or cable operated release
- Compatible with all types of hydraulic pump interfaces
- Vibration damping systems
- Optional driver control modules, switches, horn module, covers and displays

## **Product Description**

Kongsberg Automotive offers a full range of fixed, tilt and telescopic steering columns, designed to withstand the most challenging environments for off-road vehicles. With our unique modular design, all columns provide best-in-class ergonomic working conditions for the driver.

### Benefits

- Fully developed, tooled up and validated concepts
- High component commonality, enables short lead time on launches and modification

- Minimal capital and design investment
- Our steering column range enables best-in-class ergonomic working conditions for the driver
- Highly experienced engineering and manufacturing team with over 20 years of market & product knowledge

Kongsberg Automotive offers completely tailored steering columns from our modular system according to customer specifications with full in-house design, development and validation services.

#### Contact:

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# **Product Specifications**

#### Fixed and Telescope Columns



#### Tilt Columns



## **General Specification**

All columns can be specified by customer, including:

- Column length (From 100mm to 700mm)
- Connection to steering wheel,
   Ø 20 and 25 with different
   cones and serrations
- Telescope stroke: 85mm
- Top tube dimension 45 mm

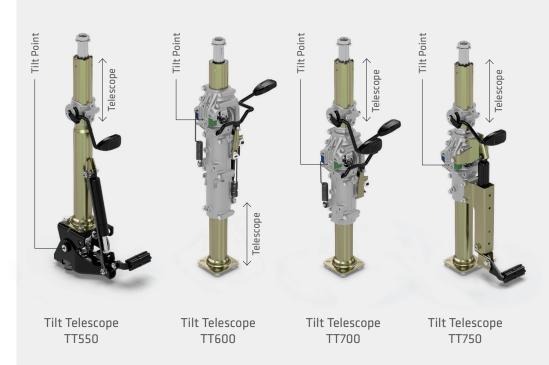
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All columns can be specified by customer, including:

- Column length (From 100mm to 700mm)
- Connection to steering wheel,
   Ø 20 and 25 with different
   cones and serrations
- Tilt angle area: ± 24°, step-in/ step-out 36/52°
- Top tube dimension 45 mm

# **Product Specifications**

#### Tilt and Telescope Columns



## **General Specifications**

All columns can be specified by customer, including:

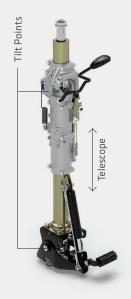
- Column length (From 100mm to 700mm)
- Connection to steering wheel,
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   cones and serrations
- Tilt angle area: ± 24°, step-in/ step-out 36/52°
- Telescope stroke: 85mm
- Top tube dimension 45 mm

#### **Double Tilt and Telescope Columns**



Double Tilt

XT850





Double Tilt, Mid Telescope XT950

Double Tilt, Upper Telescope XT1050

# **General Specifications**

All columns can be specified by customer, including:

- Column length (From 100mm to 700mm)
- Connection to steering wheel,
   Ø 20 and 25 with different
   cones and serrations
- Tilt angle area: ± 24°, step-in/ step-out 36/52°
- Telescope stroke: 85mm
- Top tube dimension 45 mm

#### **Steering Column Range Summary**



#### **Steering Column Features**

KA columns are available with covers, bellow and a range of integrated switches and shifters

Switches can be fixed direct to the steering tube and positioned with index hole





Indicator, Horn, Light, Wipers, FNR

Horn module

# Horn Module Multifunctional switch Release Lever for Tilt 6 Telescope Function Rubber Bellows Plastic Cover

#### **Steering Column Cover Concept**





## **General Specifications**

#### Standard ISO 5010 and SAE J1814

- The specification of all steering columns are according to ISO 5010 and SAE J1814.
- All columns meet Kongsberg Automotive product specification for off road vehicles, agricultural tractors and construction equipment

#### **Test and Validation**

 All columns are tested and validated according to Kongsberg Automotive product specification and above mentioned standards

# **Steering Column Modules**

## Steering column module including:

- Steering column
- Covers
- Display
- Switches
- Indicator switch
- Light switch
- Key switch
- FNR switch