

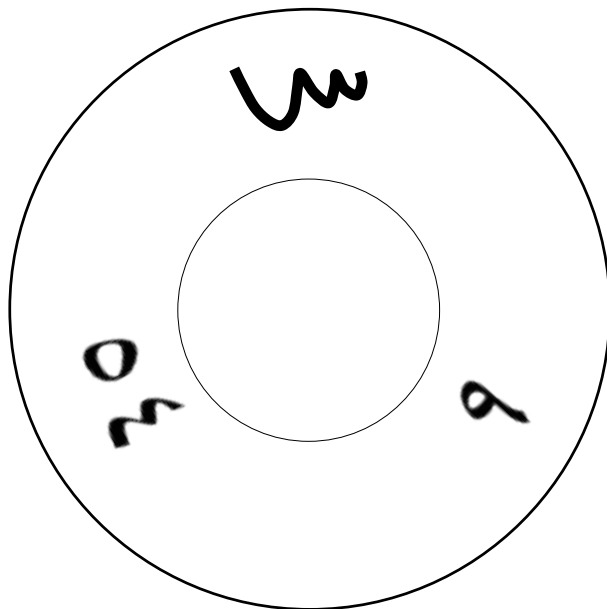
A Guide to Sudanese Ammunition (1954–present)¹

Sudanese ammunition has been observed and collected in a number of African countries, including South Sudan, Chad, Kenya, Côte d'Ivoire, Guinea, and Mali. The dynamics of the trade in and transfer of ammunition across the region are uncertain, but there is clear evidence (gathered over the period 2007–11) that Sudanese ammunition proliferates throughout many countries and over long ranges.

In 2007 the Small Arms Survey reported evidence of Sudanese munitions production in the Al Shajara/Yarmuk industrial complex outside Khartoum. This facility was upgraded and modernized in the mid-to-late 1990s. Markings on recovered bullet casings show a clear break between cartridges manufactured in the 1960s–80s and the period after Al Shajara was renovated. Pre-1996 Sudanese ammunition is marked in Arabic; subsequent cartridges are stamped with Western characters—a strong indication of a change in production equipment. The introduction of 7.62 x 39 mm ammunition suggests increased manufacturing capacity after 1996.²

The entries below describe the key markings and other characteristics of sample Sudanese ammunition casings by year of manufacture.

1954: This cartridge features a three-entry marking arrangement, with country of origin ('S' for 'Al Soudania'), lot, and year of manufacture positioned at 12, 5, and 7 o'clock, respectively. The cartridge does not feature a calibre designation.



1954

Calibre: 9 x 19 mm

☞ = 'S' for 'Al Soudania' (Sudan)

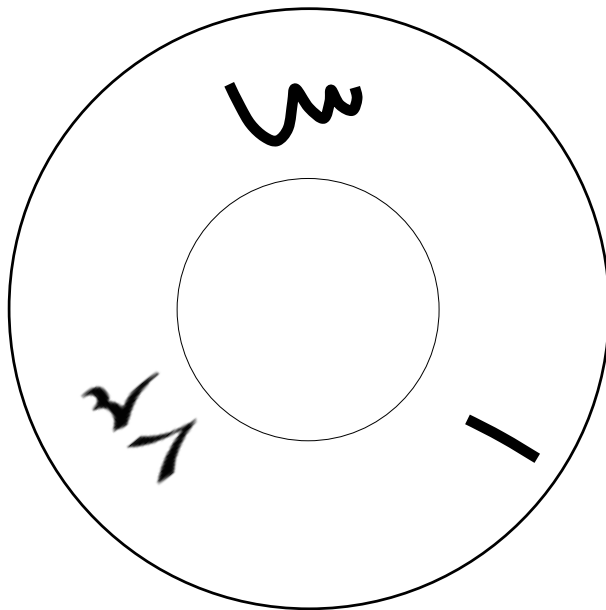
9 = '9' (lot)

54 = '54' (year of manufacture: 1954)

Note: The 5 and 7 o'clock numerals are positioned with their bases towards the rim of the cartridge (see next entry).

Source: Jorian, Serge and Philippe Regenstreif. 1995. *Culots de Munitions Atlas, Vol. II*. Toulouse: Cepaduès-Editions, p. 60

1973: This cartridge features the same three-entry marking arrangement as the previous example from 1954, with entries at 12, 5, and 7 o'clock. The cartridge does not feature a calibre designation. Its near-consistency with the 1954 example may suggest manufacture at the same facility, possibly using the same production machinery.



1973

Calibre: .303

☞ = 'S' for 'Al Soudania' (Sudan)

| = '1' (lot)

73 = '73' (year of manufacture: 1973)

Note: The 5 and 7 o'clock numerals are positioned with their bases towards the primer (centre) of the cartridge (see previous entry).

Source: Reproduced from a sample observed in South Sudan in 2009
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1981: This cartridge retains the ‘S’ for ‘Al Soudania’ to denote its origin. However, the marking arrangement differs from earlier examples (above) and a calibre designation (7.62 x 51) has been added to create a fourth entry.



1981

Calibre: 7.62 x 51 mm

س = ‘S’ for ‘Al Soudania’ (Sudan)

◦ = ‘5’ (lot)

٥١ x ٧.٦٢ = ‘7.62 x 51’ (calibre)

١٩٨١ = ‘1981’ (year of manufacture)

Note: Calibre designation (7.62 x 51) has been added, in contrast to earlier examples (see previous entries).

Source: Sample retrieved in southern Mali in 2011
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1998: The markings on this cartridge are a significant departure from earlier marking practices, which may suggest the replacement or rehabilitation/upgrading of manufacturing machinery. The marking arrangement of the cartridge is similar to the three-entry systems employed for the 1950s–70s cartridges. In this instance, however, the calibre replaces the lot number. Importantly, cartridges such as this are the first examples in the record to denote the calibre by using the case length component (39) of the calibre designation. A careful review of ammunition-marking practices reveals that Sudan is unique in this respect. In all other cases (globally), ammunition marks employ either the full calibre designation (i.e. 7.62 x 39) or an abbreviation using the first part of the designation (i.e. 7.62). Statements by Sudan’s Military Industrial Corporation (MIC) suggest that this is common Sudanese practice. For example, the MIC notes that the ‘[Al Shajara facility] produces the army requirements of the small cartridges such as 51, 39 mm’—using the case-length to describe the calibre of cartridges.³



1998

Calibre: 7.62 x 39 mm

SUD = abbreviation for Sudan

39 = calibre (7.62 x 39 mm)

98 = year of manufacture: 1998

Note: Uses case length alone (39) to denote calibre (see next entry).

Source: Sample retrieved in South Sudan in 2007
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2001: The marking arrangement of this cartridge differs considerably from the 1998 example, which may suggest the further replacement or rehabilitation of manufacturing machinery, or a new manufacturing facility. The marking arrangement of the cartridge closely follows that of the 1981 example, with a sequential arrangement (clockwise), featuring the abbreviation for Sudan, lot, calibre, and year, respectively. Like the 1998 example, however, it is stamped with the case length component (39) of the calibre designation.



2001

Calibre: 7.62 x 39 mm

SU = abbreviation for Sudan

1 = lot (?)

39 = calibre (7.62 x 39 mm)

01 = year of manufacture: 2001

Note: Uses case length alone (39) to denote calibre (see previous entry).

Source: Sample retrieved in northern Côte d'Ivoire in 2010
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2003: The marking arrangement of this cartridge is identical to that of the 2001 cartridge, with a sequential arrangement (clockwise) featuring the abbreviation for Sudan, lot, calibre, and year, respectively. As in the previous example, the case length component (51) denotes the calibre. Taken together, the 1998, 2001, and 2003 examples indicate that using the case length to denote calibre has been a standardized practice in Sudanese ammunition marking since at least 1998.



2003

Calibre: 7.62 x 51 mm

SU = abbreviation for Sudan

1 = lot (?)

51 = calibre (7.62 x 51 mm)

03 = year of manufacture: 2003

Note: Uses case length alone (39) to denote calibre (see previous entry).

Source: Confidential (2011)
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2003: The two cartridges do not feature recognizable marks to indicate the country of origin. The marks at the 12 o'clock position are unclear (probably the result of an offset stamp) and may either denote a lot number or an abbreviation of the country of origin. On close inspection, they form a hook shape. Comparison with very similarly marked cartridges (see entry for 2005, below) may suggest that the 12 o'clock mark is a numeral (potentially the lower half of a 4 or the Arabic 6). This cannot be confirmed from illustrated samples and remains conjecture.

The marking arrangement of these cartridges is, nevertheless, sufficiently similar to those of Sudanese cartridges (above) to suggest that they may have been manufactured in Sudan. First, and perhaps most importantly, the cartridges feature the case length (39) component of the calibre designation (see the entry and text for 1998, above)—a feature that is believed to be unique to Sudanese ammunition. Second, the 5 and 7 o'clock marks (designating calibre and year of manufacture, respectively) follow the same marking arrangement as the Sudanese 1998 example. Third, the marking format (style of stamping, font, and offsetting) is very similar to that of the 2001 and 2003 examples given above.



2003

Calibre: 7.62 x 39 mm

-  = unidentified mark
- 39 = calibre (7.62 x 39 mm)
- 03 = year of manufacture: 2003

Note: Uses case length alone (39) to denote calibre (see previous entry).

Source: Samples retrieved from northern Côte d'Ivoire in 2011
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2005: The marking arrangement of this format bears a strong resemblance to the 2003 example, notably with respect to the positioning of the calibre and year designations. In this case, the 12 o'clock mark appears to be the numeral '2' (significance unclear, although plausibly a factory code). Several examples of near-identically marked ammunition exist in the record, including cartridges that are year marked '07' and '08'.



2005

Calibre: 7.62 x 51 mm

- 2 = unidentified mark
- 51 = calibre (7.62 x 51 mm)
- 05 = year of manufacture: 2005

Note: Uses case length alone (51) to denote calibre (see previous entry).

Source: Confidential (2011)
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Concluding observations

The retention of marking formats and styles over long periods of time is a common feature of ammunition production. Although the cartridges presented in this document differ considerably, they retain features that are common to their predecessors, namely: 1) an apparent preference for three-entry marking, and 2) the consistent use of case length to denote calibre (post-1998).

There is little change in marking practice in the 1954–73 period, which may suggest the use of the same production machinery (probably at the Al Shajara facility). A change in marking style (sometime between 1973 and 1981) could suggest new machinery, but it may simply reflect a change in calibre and the need to discriminate between old .303 cartridges and the more recently introduced 7.62 x 51 mm calibre.

The 1998 cartridge, however, indicates a distinct juncture in marking practice, which may be the result of the rehabilitation of the Al Shajara facility and/or the creation of the Yarmuk facility. Similarly, another change of marking format (earliest example 2001) may signify new equipment or a second (perhaps third) manufacturing plant. Conversely, it could simply be the result of refined marking styles.

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Since Sudan's rehabilitation of ammunition-manufacturing infrastructure in the mid-1990s, there appears to have been a diversification of marking styles. Whether this is evidence of an increase in the number of ammunition production facilities in Sudan remains to be confirmed.

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¹ Conflict Armament Research Ltd holds physical samples of cartridges photographed for this document. For more information, contact admin@conflictarm.com.
² See Small Arms Survey (2007). *The militarization of Sudan: A preliminary review of arms flows and holdings*. HSBA Issue Brief No. 6. April. <<http://www.smallarmssurveysudan.org>>.
³ MIC (Military Industrial Corporation). 2007. 'MIC Complexes.' Khartoum: MIC, Sudan. <<http://mic.sd/english/orgization.htm>>.